

NIKITIN, Nikolay Ignat'yevich. Prinimali uchastiye: ABRAMOVA, Ye.A., starshiy nauchnyy sotr., kand. khim. nauk; AKIM, E.L., inzh.-tekhnolog; ANTONOVSKIY, S.D., dots., kand. tekhn. nauk; VASIL'YEVA, G.G., inzh.-tekhnolog; ZAYTSEVA, A.F., starshiy nauchnyy sotr., kand. tekhn.nauk; KLENKOVA, N.I., kand. tekhn. nauk; MALEVSKAYA, S.S., kand. khim. nauk; NIKITIN, V.N.starshiy nauchnyy sotr., kand. fiz.-mat. nauk; OBOLENSKAYA, A.V., kand. tekhn. nauk, dotsent; PETROPAVLOVSKIY, G.A., starshiy nauchnyy sotr., kand. tekhn. nauk; PONOMAREV, A.N., kand. tekhn. nauk, dots.; SOLECHNIK, N.Ya., prof., doktor tekhn. nauk; TOKAREV, B.I., inzh.; TSVETAYEVA, I.P., kand. tekhn. nauk; CHOCHIYEVA, M.M., kand. tekhn. nauk; ELIASBERG, M.G., doktor tekhn. nauk; YUR'YEV, V.I.; KARAPETYAN, G.O., red.izd-va; ZAMARAYEVA, R.A., tekhn. red.

[Wood chemistry and cellulose] Khimiia drevesiny i tselliulozy.
Moskva, Izd-vo Akad.nauk SSSR, 1962. 711 p. (MIRA 15:2)

1. Chlen-korrespondent Akademii nauk SSSR (for Nikitin). 2. Zaveduyushchiy kafedroy fizicheskoy i kolloidnoy khimii Lesotekhnicheskoy akademii (for Yur'yev).

(Celluloso)

YUR'YEV, V.I.; POZIN, S.S.; SKURIKHINA, G.M.

Studying the adsorption and electrokinetic characteristics
of sulfite and sulfate celluloses in relation to aluminum
salt solutions. Trudy LTA no.91:11-20 '60. (MIRA 15:12)

1. Leningradskaya lesotekhnicheskaya akademiya imeni
Kirova.
(Cellulose—Electric properties)
(Aluminum salts) (Adsorption)

BUONARROTI, GIOVANNI (001/01)
2409 2307

BUONARROTI, GIOVANNI

BUONARROTI, GIOVANNI, properties of viscose
rayon, cellulose acetate, cellulose fiber companies

BUONARROTI, GIOVANNI, P.R.C., NO. 1, 1965, 341-389

BUONARROTI, GIOVANNI, properties of viscose
rayon, cellulose acetate, cellulose fiber companies
BUONARROTI, GIOVANNI, properties of viscose
rayon, cellulose acetate, cellulose fiber companies

BUONARROTI, GIOVANNI, properties of viscose
rayon, cellulose acetate, cellulose fiber companies

BUONARROTI, GIOVANNI, properties of viscose
rayon, cellulose acetate, cellulose fiber companies

060, 030, 030, 030, 030
140, 030, 030

...and the following information concerning the aircraft in India and
the Indian government's interest in the aircraft. The aircraft
is a Boeing 747-200B, registration number 4X-ABD, and was
purchased by the Indian government in 1985. The aircraft is
used for transport purposes and is currently based in New Delhi.
The aircraft has a maximum takeoff weight of 250,000 pounds and
a maximum range of 6,000 miles. It has a maximum speed of
560 mph and a maximum altitude of 40,000 feet.

India has a maximum of minimum fuel and minimum surface con-

ditions for flight.

YUR'YEV, V. N.

Parametric amplifier with transverse interaction and electrostatic
focusing of the electron beam. Izv.vys.ucheb.zav.; radiofiz. S
no.1:153-161 '65. (MIRA 18:6)

L 21520-66 EAT(L)/EHA(n) JM

ACC NR: AP6007500

SOURCE CODE: UR/0109/66;011;CX 2/0237/0243

AUTHOR: Yur'yev, V. I.; Machulka, O. A.

ORG: none

TITLE: Experimental investigation of the suppression of near-carrier 1-f fluctuation in a power TW-tube output

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 237-243

TOPIC TAGS: traveling wave tube, signal noise separation

ABSTRACT: The results of an experimental investigation of the effect of secondary emission upon 1-f noise in a 10-kv 10-kw cw TW-tube are reported. For controlling the collector secondary emission, a special ring electrode was mounted in the tube, between the collector and the waveguide output end. Both the collector and the structure were grounded, while the ring received a negative potential (1200 to 2000 v) from a special h-v rectifier. Mainly, the ring electrode repelled secondary-electron volume density and also the ion density. Through lowering the collector-region potential with respect to the beam potential by 10%, the phase noise could be reduced by 10-15 db. Orig. art. has: 8 figures and 5 formulas. [03]

SUB CODE: 09 / SUBM DATE: 30Oct64 / OTH REF: 004/ ATD PRESS: 4222

Card 1/1dta

UDC: 621.385.632:621.391.822.3

REF ID: A6711/EWA (n)-2/ENG (t)/EEC (o)-2/EWA (n)-2/EWA (h) 1m-4/Pz-5/Pec/Fi-4/
1m-7/1m-10/1m-17
ACCESSION #: APPC1635

UR/0141/65/008/001/0153/0161

AUTHOR: Tur'yev, V. I.

TITLE: Parametric amplifier with transverse interaction and electrostatic focusing of the electron beam

SOURCE: IVUZ. Radiotekhnika, v. 8, no. 1, 1965, 153-161

TOPIC TAGS: parametric amplifier, transverse interaction, electrostatic focusing

ABSTRACT: After first comparing the two basic types of parametric amplifiers with electron beams, namely with longitudinal interaction and with transverse interaction, and briefly discussing the advantages and disadvantages of this type, the author demonstrates the feasibility of a parametric amplifier with transverse interaction and with electrostatic focusing of the electron beam, which obviates the need for cumbersome magnets and complicated high-frequency circuits. The elements used to couple the signal with the beam have been proposed by R. H. Pantell (Mikrowellenrohren. Vortrage der Internationalen Tagung, Mikrowellenrohren. Munchen, 7-11 Juni, 1960, Friedr. Vieweg & Sohn Braunschweig). It is claimed that the system proposed is on the whole simpler than that of I. Matsuo (Zarubezhnaya radioelektronika

Card 1/2

L 53019-65

ACCESSION NR: AP5019-65

(ib v. 3, 73, 1961). Plots are presented of the gain, minimum length of coupler, frequency, and electron velocity on the potential difference between the electrodes of the coaxial line, of the dependence of the gain, minimum length, frequency, and unperturbed radius of the trajectory of the electron on the radius of the outer electrode, and the dependence of the gain on the pump signal power. Orig. art. has 3 figures and 37 formulas.

ASSOCIATION: None

SUBMITTED: 30Mar64

ENCL: 00

SUB CODE: EC

MR REF Sov: 006

OTHER: 011

450 2/2

YUR'YEV, V.K.

Theoretical shape of a beam having a uniform resistance to
bending. Trudy KAI 46:87-94 '59. (MIRA 14:2)
(Girders)

YUR'YEV, V.K.

Design of continuous beams with an even transverse strength taking the gravity into consideration. Trudy KAI no.62:39-43 '61. (MIRA 17:2)

10.6000 1327

S/124/61/000/012/035/038
D237/D304

AUTHOR: Yur'yev, V. K.

TITLE: Calculating panels of constant cross-section

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 12, 1961,
18, abstract 12V128 (Tr. Kazansk. s.-kh. in-
ta, 1958, 1, no. 37, 149-158)

TEXT: Stresses are determined in a thin-walled panel on a framework under a co-planar load of axial forces applied to the ends of longitudinal ribs and of a transverse load. The proposed method of calculation is based on the method of Yu. G. Odinokov (Tr. Kazansk. aviat. in-ta, 1946, no. 18), which allows arbitrary longitudinal displacements of the points of the construction; it is also assumed that the shape of transverse cross-section of the construction does not change during deformation. The solution for the panel is extended to numerical formulas. From the given example it can be seen that the solu-

✓C

Card 1/2

Calculating panels or...

S/124/61/000/012/035/038
D237/D304

tion well represents the interaction of forces in the construc-
tion. [Abstracter's note: Complete translation.] ✓C

Card 2/2

YUR'YEV, V.M., red.; SHPAK, Ye.O., tekhn.red.

[Study of thermosetting plastics] Issledovaniia v oblasti
termoreaktivnykh plastmass. Moskva, Gos.nauchno-tekhn.izd-vo
khim.lit-ry, 1959. 98 p. (MIRA 13:6)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut
plasticheskikh mass.
(Plastics)

5(3)

AUTHORS:

Yur'yev, V. M., Pravednikov, A. N.,
Medvedev, S. S., Academician

SOV/20-124-2-26/71

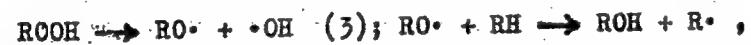
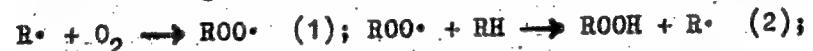
TITLE:

Influence of Side Chains on the Rate of Oxidation of Carbon
Chain Polymers. (Vliyaniye bokovykh otvetvleniy na skorost'
okisleniya karbotsepynykh polimerov)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 2, pp 335-337
(USSR)

ABSTRACT:

The principal reactions in the oxidation of hydrocarbons are
the following:

reactions determine the rate of oxidation. As is known the rate
is considerably decreased on the transition from low molecular
weight to high molecular weight compounds of analogous structure
(Refs 1, 2). This might be explained as follows: The removal of
one hydrogen atom from the hydrocarbon atom is accompanied by a

Card 1/3

SOV/2Q -124-2-26/71

Influence of Side Chains on the Rate
of Oxidation of Carbon Chain Polymers

transition of the corresponding link of the molecule from a tetrahedral to a plane configuration. In polymers, links of the polymer chain are displaced. This is bound to increase the activation energy and thus to retard the reaction (as compared with the analogous reactions of low molecular weight compounds). The separation of one hydrogen atom from a side group (methyl-, propyl- and others) is not accompanied by a displacement of the links of the polymer chains and must possess the same activation energy as the corresponding reactions of the low molecular weight compounds. It can therefore be expected that the oxidation of the polymers with comparatively short side chains will take place mainly on the side chains. To control this assumption the authors synthesized polymethylene as well as polymers which contained the methyl and propyl side groups (Ref 4). The experiments concerning the oxidation of these polymers have shown that the introduction of side groups rapidly increases the absorption rate of oxygen (Fig 1,a); at the same time the number of oxygen molecules which are used for the cleavage of the principal chain (Figs 3, 4) increases, i.e. the oxidation really proceeds in the side chains prevalently. At a high oxidation intensity of the polymers which were produced by decomposition

Card 2/3

Influence of Side Chains on the Rate
of Oxidation of Carbon Chain Polymers

sov/20-124-2-26/71

of the diazo compounds, a "sewing up" (zashivaniye) of the polymer results as a consequence of ether bridges between the macro-molecules. A very low molecular fraction appears within the system as well. Possibly, these variations are due to the proceeding of a bimolecular reaction under participation of 2 oxygen containing radicals (Ref 6). Polystyrene is not "sewed up" at an oxidation intensity of up to about 20 ml O₂ per 1 g polymer, since the concentration of the radicals and the oxidation rates, respectively, seem to be too low. There are 4 figures and 6 references, 3 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im.
L. Ya. Karpova (Scientific Physical and Chemical Research
Institute imeni L. Ya. Karpov)

SUBMITTED: September 29, 1958

Card 3/3

5 (4), 5 (3)

AUTHORS:

Yur'yev, V. M., Pravednikov, A. N.,
Medvedev, S. S., Academician

SOV/20-125-6-36/61

TITLE:

The Influence of Oxidation Products on the Kinetics of the
Oxidation of Cetane (Vliyaniye produktov okisleniya na
kinetiku okisleniya tsetana)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 6,
pp 1301-1302 (USSR)

ABSTRACT:

The oxidation of cetane takes place at 140° in a closed system with circulating oxygen. Figure 1 shows that, up to a reaction yield of 25-30 %, the reaction develops autocatalytically, after which it decreases rapidly and continues at a nearly constant rate above a reaction yield of 40-50 %. The concentration of peroxide compounds has a maximum at a reaction yield of 25-30 %, after which it also decreases and becomes nearly constant at a reaction yield of 40-50 %. These phenomena are indicative of the fact that, in the course of oxidation, processes occur which reduce the rate of oxidation. As in the case of hydrocarbon oxidation, the system becomes divided into two layers in the course of the process, an upper layer containing hydrocarbons and a

Card 1/2

The Influence of Oxidation Products on the Kinetics of the Oxidation of Cetane SOV/20-125-6-36/61

lower one consisting of oxidation products, products of the lower layer were added to the cetane, which resulted in a reduction of the reaction rate (Fig 3). On the other hand, removal of the lower layer from the reaction vessel caused acceleration of the reaction. This proves that the reduction of reaction rate is caused by the accumulation of products which interrupt the development of the reaction. There are 3 figures.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute for Physical Chemistry imeni L. Ya. Karpov)

SUBMITTED: February 11, 1959

Card 2/2

YUR'YEV, V.M.

PART I BOOK EXPLOITATION

SER/7954

International symposium on macromolecular chemistry. Moscow, 1960.

Respublikanskiy simpozium po makromolekulyarnoy khimii SSSR, Bocharova, 14-15 iyunya 1960 g., doklad 1 avtorevertsi. Sektariya III. International Symposium on Macromolecular Chemistry. Held in Moscow, June 14-15, 1960; Papers and Summaries) Section III. [Moscow, Izd-vo AN SSSR, 1960]. 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Krasnik.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

CONTENTS: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, e.g., ion exchangers, semiconductors, materials, etc., methods of catalyzing polymerization reactions, properties and chemical interaction of high molecular materials, and the effects of various factors on polymerization and the degradation of high molecular compounds. No generalities are mentioned. References given follow the articles.

Dobrovolskiy, V. A., A. M. Prilepskin, and S. S. Reutov. (1960). The Effect of Formic Acid and Formates on the Oxidation of Hydrocarbons and Hydrocarbon Polymers. 364

Dobrovol'skiy, V. A., and D. M. Panovskiy. (USSR). Study of the Effect of Some Organic and Organoelemental Compounds on the Thermal Degradation of Polyvinyl Chloride. 372

Michalec, O., F. Jilíček, and P. Žefáček. (Czechoslovakia). Degradation of Poly- β -Cuprocinnamylidene Acetone as a Result of Exchange Reaction Borazem. Amide Bonds. 380

Dufek, J., L. Šimáček, and M. Ježek. (Czechoslovakia). Neutralization of Residual Catalyst in Polyisobutylene: Effect of Thermal Neutralization on the Thermal Stability of the Polymer. 388

Gachinskaya, O. Mlejnka, and J. Šilhán. (Czechoslovakia). Theoretical-Degradation Degradation of Polystyrene. Study of Degradation Reactions for Different Types of Linear Polyesters. 405

Kerman, M. B., B. M. Karataeva, I. F. Golubenkova, A. S. Strikova, N. V. Zverotoretskaya, and Yu. D. Kuznetsov. (USSR). On the Degradation and Stabilization of Some Polymeric Materials. 414

Lagert, L. G., and A. S. Shul'manov. (USSR). Investigation of the Efficiency of Inhibitors of Rubber Oxidation at Various Temperatures. 423

Mandrikov, A. I., and V. N. Ven'kang. (USSR). Mechanism of the Protective Action of Benzene Rings During the Radical-Catalyzed Polymerization of Polybutene. 433

Perzin, A. A., Ye. A. Panekaya, and G. I. Volkova. (USSR). Mechanicochemical Transformations and Block Copolymeriza- 440-25

tion During the Freezing of Starred Solutions. 334

Ushakov, Yu. N., B. I. Aykhmedzayev, and U. Arzoy. (USSR). Modification of the Properties of Cellulose by Grafting. 384-22

YUR'YEV, V.M.; ROL'BEYN, L.; OL'KHOVSKIY, A., obshchestvennyy inspektor po
okhrane truda; BUZNETSKIY, V.A., inzh.-kontroler

Readers' letters. Bez.truda v prom. 6 no.1:36 Ja '62.
(MIRA 15:1)

1. Uchastkovyy gornotekhnicheskiy inspektor Kuybyshevskoy rayonnoy
gornotekhnicheskoy inspeksii, Donetskogo okruga (for Yur'yev).
2. Glavnyy inzh. UM-79 tresta 19, g. Minsk (for Rol'beyn).
3. Upravleniye Krivorozhskogo okruga Gosgortekhnadzora USSR (for
Buznetskiy).

(Industrial safety)

YUR'YEV, V.M.; TELESHOVA, A.S.; APTEKAR', Ye.L.; ARDASHNIKOV, A.Ya.;
REZNIKOVA, O.Ya.; PRAVEDNIKOV, A.N.

Use of ion-sorption ESh-1 pumps in the MI-1305 mass-spectrometer.
Zav.lab. 30 no.3:375-376 '64. (MIRA 17:4)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni
Karpova.

YUR' YEV,

A. R. Егоров, A. N. Аникин, B. N. Кара,
A. P. Ганко

Справка о спектральных установках для определения массы элемента в диапазоне 0.5—10 гг.

A. B. Соловьевский,
B. A. Ютия,
B. M. Красинский,
A. B. Краснов

Параллельные баллистры для измерения массы СВЧ

A. N. Касаткин
Оптические параметры радиометра.

N. N. Некрасов

О спектральных спирометрах массы с диапазоном 3—30 кг

B. C. Буров

Металлические изотопы изотопного спирометра массы в диапазоне от 10 мк до 20 кг

15 минут
(с 10 до 20 кг)

60

T. A. Степан.
E. B. Смирнова
B. E. Капустина

Метод измерения спектральных характеристик в акустическом диапазоне масс

N. P. Ганин, B. B. Крум

Устройство для измерения массы поглощенных волокон в спектральном диапазоне

D. S. Ефимов
D. G. Борисенко

Измерение радиотехнических характеристик спирометра массы в диапазоне СВЧ

E. N. Красинский

Точное измерение КСВН с помощью фазометра и массой гироскопа

10 минут

(с 10 до 100 кг)

A. N. Краснов

Метод измерения спектральных характеристик масс

в диапазоне 0.5—10.0 гг

4

report submitted for the Centennial Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in. A. S. Yuzov (VKRUE), Moscow,
8-12 June, 1959

YUR'YEV, V.N., starshiy inzh.-tekhnolog

Scientists are helping the workers. Elek. i tepl. tiaga 5
no. 9:32 S '61. (MIRA 14:10)

1. Lokomotivnoye depo imeni Il'icha Moskovskoy dorogi.
(Railroads--Repair shops) (Railroads--Employees)

YUR'YEV, V.N., starshiy tekhnolog; SAVCHENKO, I.T., starshiy teplotekhnik

We received the TEM2 diesel locomotive. Elek. i tepl. tiaga
6 no.4:6 Ap '62. (MIRA 15:5)

1. Lokomotivnoye depo im. Il'iicha, Moskva (for Yur'yev).
(Diesel locomotives—Testing)

YUR'YEV, V.N., starshiy inzh.-tekhnolog; BROVKIN, M.M., starshiy tekhnik

Cleaning of woolen fuel filter plates. Elek. i tepl. tiaga 6
no.11:24 N '62. (MIRA 16:1)
(Diesel locomotives--Fuel systems)

YUR'YEV, V.S.

Automatic submerged arc welding units for vertical cylinders.
Proizv. egypt v obl. svar. no.1:69-71 '56. (MLRA 9:10)

(Cylinders--Welding) (Electric welding)

SOV/137-59 2-3118

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 119 (USSR)

AUTHORS: Yur'yev, V. S., Pisarev, L. Ya.

TITLE: An Automatic Arc-welding Unit for Welding of Flanges (Elektrosvarochnyy avtomat dlya privarki flantsev)

PERIODICAL: Byul. tekhn. ekon. inform. Sovnarkhoz Rostovsk. ekon. adm. rina, 1958, Nr 4, pp 25-26

ABSTRACT: Developed by the design department of the Taganrog "Krasnyy Kotel'shchik" ["Red Boilermaker"] plant, the automatic welding machine described is designed for welding of flanges to various cylindrical articles. The operating characteristics of the unit are as follows: Maximum diameter 1600 mm; minimum diameter 200 mm; thickness of wall 10-30 mm; maximum length 6000 mm; speed of welding 10-30 m/hr. The welding head is identical to that employed on the UT-2000 automatic welding machine equipped with a traveling mechanism. The speed of welding can be controlled continuously, the face plate may be rotated through an angle of 90°. The electric current is supplied to the welding head through a cable from a transformer of the STD-1000 type. Annular surfacing of flat areas may be performed with this welding unit. N. K.

Card 1/1

TUR'YEV, V.S.

Unit for flame and mechanical pipe cleaning. Biul.tekh.-ekon,-
inform.Gos.nauch.-issl.inst.nauch,i tekhn.inform. 16 no.7:36-38
'63. (MIRA 16:8)

(Pipe—Cleaning)

Author: P. V. Kostylev

Date: 1958

Author(s): Kostylev, P. V., G. M. Kostyleva, V. V. Tikhov, V. V. and Ponomaryov, S. M.

Title: An attempt to discover the α^+ nuclei among the carbon fission products of the atomic fission of ^{235}U by energy

Periodical: Soviet Journal of Nuclear Physics

Abstract: Experiments on the search for α^+ nuclei were conducted on the absorption of a proton beam from the ^{235}U fission products in a radioactive compound, namely, $\text{Li}_2\text{B}_4\text{O}_7$. A large number of experimental materials and methods enabled the authors to obtain a fairly large amount of information on the α^+ nuclei. The results of these experiments are presented in the present article.

Keywords: Nuclear fission, alpha particles, energy, absorption, boron

Index terms: Nuclear fission, alpha particles, energy, absorption, boron

YURYEV, V.V. (Asst. Prof.)

"On the Problem of Producing Goods and the Law of Cost under Socialism."

report presented at the 13th Scientific Technical Conference of the Kuybyshev Aviation Institute, March 19⁵⁹.

S/057/63/033/002/012/023
B108/B186

AUTHORS: Bel'skiy, S. A., Myakinin, Ye. V., Petrov, A. M.,
Romanov, A. M., and Yur'yev, V. V.

TITLE: The energy transfer to the wall of the discharge chamber in
the "Alpha" machine

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 2, 1963, 212 - 213

TEXT: The energy was measured with integral-type semiconductor and wire
bolometers connected to a measuring bridge. The vacuum in the hydrogen
plasma was $5 \cdot 10^{-5} - 2 \cdot 10^{-3}$ mm Hg. The energy measured by the detectors
rises monotonically with the voltage at the discharge capacitor battery.
This dependence is slightly less than in accordance with a square law.
Experiments with scintillation and boron counters and with a $\text{CaSO}_4\text{-Mn}$

thermo-luminophor showed that the energy transferred to the wall by short-
wave electromagnetic radiation is not more than 10% of the plasma energy.
A larger part of energy lost to the walls must be due to other processes
(neutral particles; ZhTF, 30, 12, 1419, 1960).

SUBMITTED: April 9, 1962
Card 1/1

UR/0048/65/029/010/1942/1945

Yev. V. V., Myaklin, Ye. V., Romanov, A. M.; Shalak, N. I.; Yur'ev, V. V.

TITLE: Investigation of low-energy charged particles with the Cosmos 12, 13, and Elektron 2 satellites. [Investigation of the influence of cosmic rays on the Earth's magnetic field.]

PLACE IN USSR: Izvestiya. Seriya fizicheskaya . . 29, no. 1, 1965, 1942-1945

In 1964 the authors have measured slow and fast charged fluxes in the atmosphere with the help of the Elektron 2 satellite. The measurements were made in the last month of 1964. The authors used two Geiger-Muller counters with a total volume of 10 liters. The counter was surrounded with plastic scintillation counters connected to one multichannel pulse height analyzer. The energy resolution was sufficient in air, air was

ACCESSION NR. AP5026236

for maximum intensity ranged from 80 to 103 g/cm², and the absorption was from

Card 5/3

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5

12/21/01
ACCESSION NR: AP5026236

ITEM NUMBER: 00

REF ID: 001

ENCL: 00

ITEM: 00

SUB CODE: NP ES

ITEM: 00

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

YEFIMOV, Yu.Yo.; MYAKININ, Yu.Yo.; ROMANOV, A.M.; SHOAK, N.I.; YUR'yEV, V.V.

Some results of neutron measurement in the atmosphere. Izv. Ak
SSSR, Ser. fiz. 19 no.1083242-1945 G 165.

(MFRB 1610)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5

YUR'YEV, V.YA.

25820. YUR'YEV, V. YA. Semenovodstvo zhizh khar'kovskoy 194. Seleksiya i
semenovodstvo, 1949, № 8, S. 7-11

SO: Letopis' Zhurnal'nykh Statey Vol. 34, Moskva 1949

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

YUR'YEV, V.Ya.

MULYARCHUK, S.O.; YUR'YEV, V.Ya., diyenyy chlen.

Prospective use of glutinous alfalfa (*Medicago glutinosa* M.B.) for selection.
Dop. AM URSR no. 6:463-466 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Yur'yev). 2. Nizhyna'kyy derzhavnyy
pedagogichnyy instytut im. M.V.Hoholya (for Mulyarchuk). (Alfalfa)

YUR'YEV, V. Ya.

"The principal problems of wheat selection."

reported at Conference on Problem of Heredity and Variability, held at
Institute of Genetics, AS USSR, 8-14 Oct 1957
Vestnik AN SSSR, 1958, Vol. 28, No. 1, pp. 127-129 (author Kushner, Kh. F.)

USSR / Cultivated Plants. Cereal Crops.

M-3

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58508
Author : Yur'yev, V. Ya.
Inst : Khar'kov University
Title : Principal Trends in the Selection of Grain Crops
Orig Pub : V sb.: Vopr. metodiki selektsii pshenitsy i kukuruzy,
Khar'kov. Un-t, 1957, 5-10

Abstract : No abstract given

Card 1/i

16

YUR'EV, V.Ya.

[General breeding and seed production of field crops] Oshchaina
selektsiia i semenovodstvo polevykh kul'tur. 3., perer. izd.
Moskva, Gos. izd-vo selkhoz. lit-ry, 1958. 344 p. (MIRA 11:10)
(Field crops)

VLASYUK, P.A., akademik, otv.red.; YUR'YEV, V.Ye., akademik, zam. otv. red.; BUZANOV, I.F., akademik, red.; DANILENKO, I.A., red.; DELCHE, L.H., doktor biolog.nauk, red.; KUCHUMOV, P.V., doktor sel'skokhoz.nauk, red.; POLYAKOV, I.M., red.; STRONA, I.G., kand.sel'skokhoz.nauk, red.; TKACHENKO, F.A., kand.sel'skokhoz. nauk, red.; CHIZHENKO, I.A., kand.ekonom.nauk, red.; LESOVICHENKO, Ye.V., red.; MANOYLO, Z.T., tekhn.red.

[Vegetables and potatoes; works of scientific session, No.2]
Ovoshchnye kul'tury i kartofel'; trudy nauchnoi sessii, vypusk 2.
Kiev, Izd-vo Ukrainskoi Akad.sel'khoz.nauk, 1960. 132 p.

(MIRA 14:1)

1. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki. 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Danilenko). 3. Chlen-korrespondent AN USSR (for Strona).
(Vegetable gardening) (Potatoes)

VLASTYUK, P.A., akademik, otd.red.; YUR'IEV, V.Ya., akademik, zam.otd.red.; BUZANOV, I.F., akademik, red.; DANILENKO, I.A., red.; DELONE, L.N., doktor biolog.nauk, red.; KUCHUMOV, P.V., doktor sel'skokhoz.nauk, red.; POLYAKOV, I.M., red.; STRONA, I.G., kand.sel'skokhoz.nauk, red.; TKACHENKO, F.A., kand.sel'skokhoz.nauk, red.; CHIZHENKO, I.A., kand.ekonom.nauk, red.; BILANIHA, L.F., red.; VIDOMYAK, A.P., khim.-tekhn.red.

[Problems in improving the quality of agricultural products; proceedings of the scientific session] Voprosy uluchsheniia kachestva sel'skokhozistvennoi produktsii; trudy nauchnoi sessii. Kiev, Izd-vo Ukrainskoi Akad.sel'khoz.nauk. No.4. [Feeds and livestock products] Korma i produkty zhivotnovodstva. 1960. 143 p.

(MIRA 14:1)

1. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki.
2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina i Ukrainskoy akademii sel'skokhozyaystvennykh nauk; Nauchno-issledovatel'skiy institut zhivotnovodstva Lesostepi i Poles'ya USSR (for Danilenko).
3. Chlen-korrespondent AN USSR (for Polyakov).
4. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki (for Strona).

(Feeds)

(Stock and stockbreeding)

YUR'YEV, V.Y., [IUr'iev, V.IA.], akademik, dvazhdy Geroy Sotsialisticheskogo
Truda; PAKHOMOVA, V.P., kand.ekonom.nauk.

Winter hardiness of certain rye varieties. Visnyk sil'hosp.nauky 4.
no.8:21-24 Ag '61. (MIRA 14:7)

1. Ukrains'kiy ordena Lenina naukovo-doslidniy institut roslinnitstva,
seleksii i genetiki.
(Rye) (Plants--Frost resistance)

YUR'YEV, V. Ya., ety., red. [redacted]; STRONA, I.G., kand. sel'khoz. nauk, zam. otv. red.; VOL'F, V.G., red.; POLYAKOV, I.M., red.; LAPTSEVICH, G.P., red.; KIREYEV, F.N., red.; POKID'KO, A.I., red.; POTOTSKAYA, L.A., tekhn. red.

[Scientific problems in seed production, the study and the inspection of seeds] Nauchnye voprosy semenovodstva, semenovedeniia i kontrol'no-semenennogo dela; sbornik materialov. Kiev, Izd-vo Ukr. akad. sel'khoz. nauk, 1962. 203 p. (MIRA 16:5)

1. Soveshchaniye po organizatsii nauchno-issledovatel'skoy raboty v oblasti semenovodstva, semenovedeniya i kontrol'no-semenennogo dela. Kharkov, 1961. 2. Ukrainskiy nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki (for Strona).
(Seed industry)

YUR'YEV, Ya.M., inzh.; KORSHUNOV, V.A., inzh.; OBODOVSKIY, A.A., tekhnik

Improvement of devices in the interior of TP-230-2 boiler drums.
Energetik 9 no.8:1-5 Ag '61. (MIRA 14:8)
(Boilers)

YE. A. YUR'YEV

Rol' Sibiri V Ekonomike Sel'skogo Khozyaystva Strany
(by) I. G. Mishchenko (l) Ye. A. Yur'yev. Moskva, Ekon-
omizdat, 1961.

228 P. Tables.

Yur' yev, Yu.

AUTHOR: Yur'yev, Yu. 27-12-12/27

TITLE: In the Fields of the Krasnoyarsk Kray (Na polyakh Krasnoyarskogo kraya)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, 1957, # 12, p 17 (USSR)

ABSTRACT: The article states that more than 7,000 students of the Labor Reserves' agricultural mechanization schools had been working this fall on the Sovkhoz fields of the Krasnoyarsk Kray bringing in the rich harvest. They arranged a competition for the best results obtained, and the article gives some particulars mentioning the names of the most successful men.

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SUBMITTED: September 1, 1962

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

YUK'YEV, Iu. I., Cand. tech Sci -- (diss) "Effect of the degree of
rolling on the rigidity of frame saws." Minsk, 1960. 12 pp; (Minis-
try of Higher, Secondary Specialist, and Professional Education
Belorussian SSR, Belorussian Forestry Engineering Institute, Minsk,
1960) (title in Russian). (A., 2nd ed., 1960)

LAPIN, P.I.; KONDRATOVICH, N.Ye.; YUR'YEV, Yu.I.; ANTSIFEROVA, T.S.; GERMET,
G.M.; POTOLOVSKIY, N.I., red.; MEL'NIKOVA, M.S., red. izd-va; PARA-
KHINA, N.L., tekim. red.

[Manual on the assembly, operation, maintenance and repair of the
equipment of sawmills and woodworking enterprises] Spravochnik po
montazhu, ekspluatatsii i remontu oborudovaniia lesopil'nykh i de-
revoobrabatyvaiushchikh predpriiatii. Moskva, Goslesbumizdat, 1961.
443 p.

(Woodworking machinery) (Sawmills—Equipment and supplies)

YUR'YEV, Yu.I., kand.tekhn.nauk; GERNET, G.M., inzh.

New developments in the field of circular saws. Der.prom. 10 no.5:
14-15 My '61.
(MIRA 14:5)

1. Arkhangel'skiy lesotechnicheskiy institut im. V.V.Kuybysheva.
(Circular saws)

LAPIN, Petr Ivanovich; KONDRAUTOVICH, Nikolay Yemel'yanovich; YUR'YEV,
Yuriy Ivanovich; ODINTSOVA, L.I., red.; MART'YANOVA, L.I.,
tekhn. red.

[Design and use of modern frame saws] Konstruktsii i eksplu-
atacia sovremennykh lesopil'nykh ram. Arkhangel'sk,
Arkhangel'skoe knizhnoe izd-vo, 1962. 82 p.

(MIRA 16:12)

(Saws)

Yuryev, Yu. K.

OA

Chemical nature of Gasoline from the Urals and its catalytic aromatization. N. D. Zhdanov and Yu. K. Yuryev. Bull. Acad. of U.R.S.S., Chem. in Phys. math. 1950, No. 61. - Samples were removed by means of NaHII and HgCl₂, and distn. was carried out over freshly reduced Cu. Aromatics were determined by dissolving them in H₂SO₄, containing 7-10% SnO₂. The remaining cyclic hydrocarbons were dehydrogenated by passing them

22

at a rate of 6-7 drops per min. through a tube 1 x 60cm, held at 310-310° and filled with platinum C (30% Pt). The total yield of aromatics was thereby increased to 10%. Gasoline from Saratov contained no aromatics, but 60% of it could be converted into aromatics by dehydrogenating cyclic hydrocarbons. Aromatic thus obtained can be nitrated without further purification. Hydrocarbons not affected by the dehydrogenation process are said, aliphatic hydrocarbons (C 84 to 86.40%, H 16.72 to 19.30%). V. Kalinovskiy

MATERIALS INDEX

TYPE

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

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37

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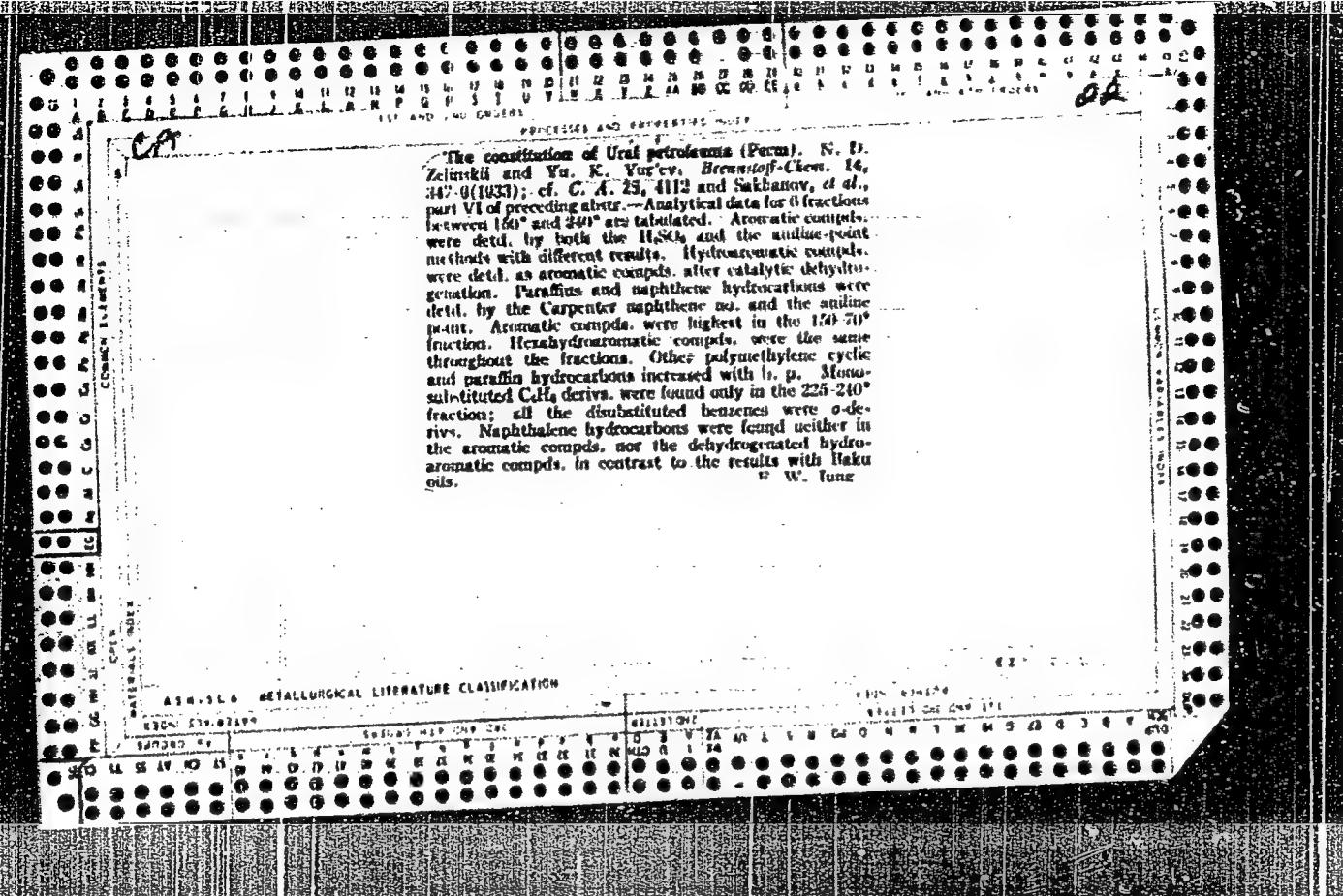
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261

262

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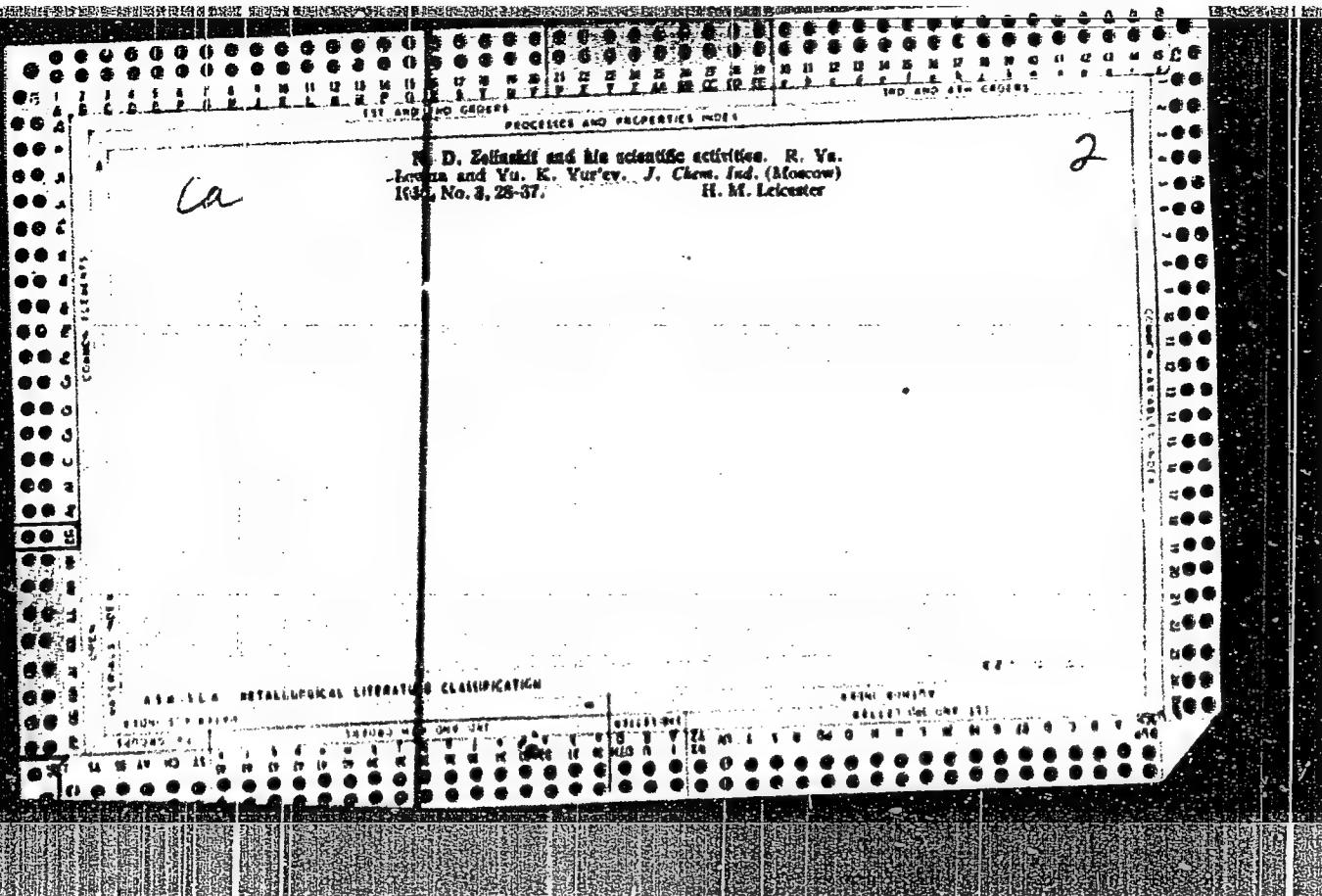


Chemical properties of petroleum from Sterlitamak. N. D. Zelinskii and Yu. K. Yur'ev. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat.*, 1934, 135-9 (in English 139-40).—Sterlitamak crude oil (d_4^{20} 0.89) is a S crude oil (2.43% S) contg. paraffins, naphthalenes and aromatic compds. After removal of S compds. with Hg salts (mercaptans and disulfides present, thiophene and its derivs. absent), 6 fractions between 40° and 310° were investigated for their content of aromatic compds. (H_2SO_4 and aniline methods), hydroaromatic compds. (dehydrogenation with Pt (cf. *C. A.*, 6, 338; 7, 2224; 17, 2567; 18, 244, 2902, 3184)), naphthalenes (calcd. by the method of Sakhnoff, *C. A.*, 28, 2650) and paraffins (by difference). Naphthalene derivs. were absent. High-boiling fractions were found to be similar in chem. compn. to those of Perm crude oil (*C. A.*, 28, 299) but gasoline and kerosene fractions contained a smaller amt. of aromatic compds. Nevertheless, removal of aromatic compds. and S compds. in refining kerosene cannot be avoided.

22

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The mechanism of the action of aluminum chloride on biphenyl. V. Ya. Yutkev and R. Ya. Levin. *Uchenne Zapiski* (Litt. Ser. Matematika-Chemii) 3, 203 (1914); *Zhur. Fiz.-Khim.* 11, 116 (1915). Products obtained from the reaction of biphenyl at 100°-110° in the presence of AlCl₃ are predominantly benzene (73.8%) as well as methylecyclopentane (18.3%), toluene (6%), cyclohexane (4%). Purines and cinnamyl were not formed.

W. A. Moore

ABSTRACT METALLURGICAL LITERATURE CLASSIFICATION

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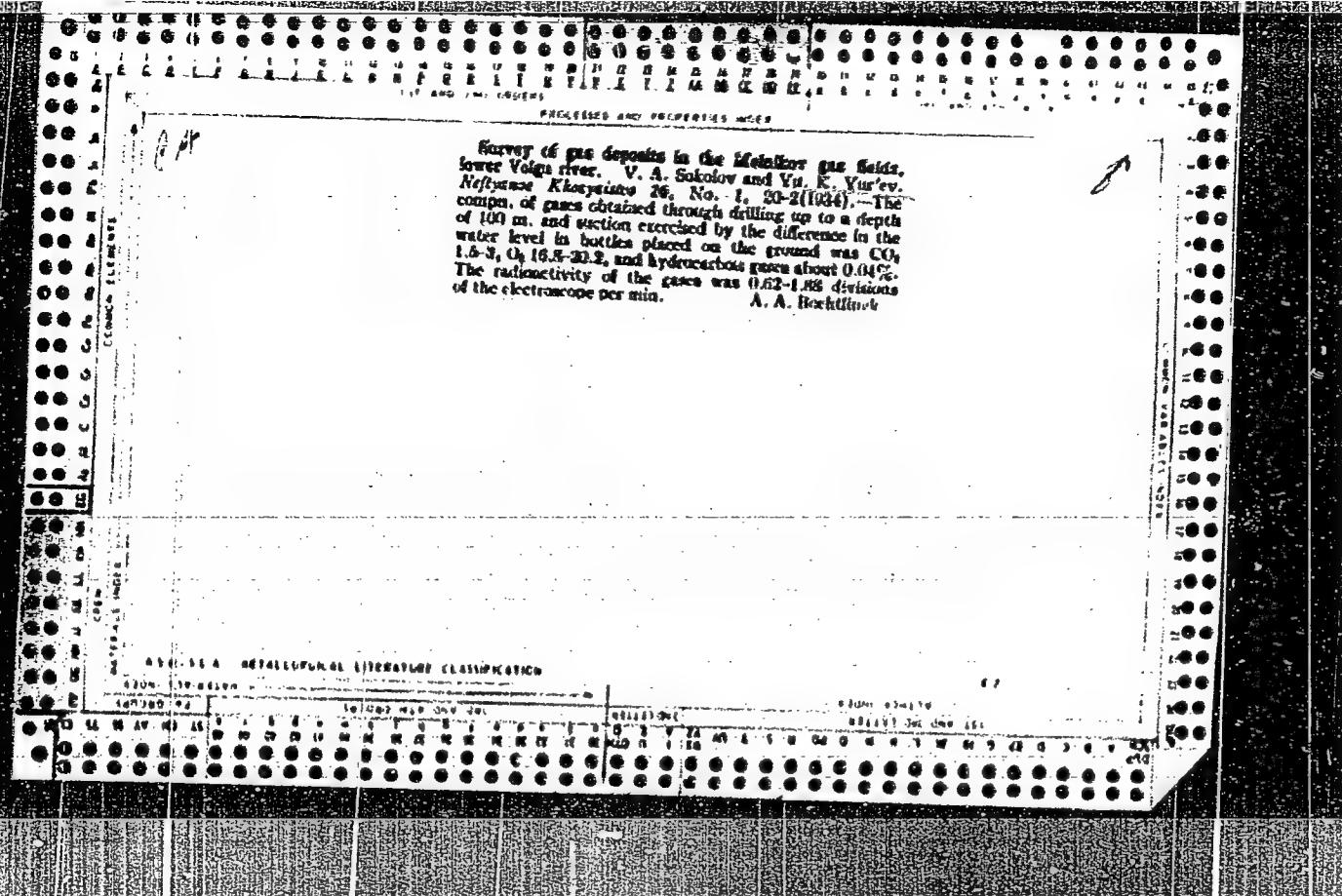
PROCESSES AND PROPERTIES INDEX	
<i>Catalytic hydrogenation of the homologs of pyrrole and polyhydrogenation of their tetrahydric derivatives.</i> Yu. K. Yar'ev and P. F. Shev'yuk. <i>J. Gen. Chem. (U. S. S. R.)</i> , 43, 1238-61 (1934); cf. Zelinskii and Yar'ev, <i>C. A.</i> , 24, 1110; 25, 2097. — <i>N</i> -Methylpyrrole, b.p. 112-3°, n _D ²⁰ 1.467, d ₄ ²⁰ 0.9093; <i>N</i> -ethylpyrrole (<i>I</i>), b.p. 129-30°, n _D ²⁰ 1.4613, d ₄ ²⁰ 0.9005, and <i>N</i> -propylpyrrole (<i>II</i>), b.p. 143.5-7.5°, n _D ²⁰ 1.4773, d ₄ ²⁰ 0.8831, were obtained from Cullon and the alkyl halides by the method of Ochiai (<i>C. A.</i> , 9, 73) and then hydrogenated by the method of Sabatier and Senderens. Of the 3 catalysts used, <i>Ca</i> -asbestos failed to catalyze the reaction, Pt-C gave very poor results with a rapid poisoning of the catalyst, while Pd-asbestos at 160° gave good results. The hydrogenation was in each case continued until the product showed a const. n. The synthesized bases were identified by converting into the picrates and cryst. from abs. alc. to a const. m. p. <i>N</i> -Methylpyrrolidine, b.p. 80-1°, n _D ²⁰ 1.4311, d ₄ ²⁰ 0.8169, M. D. 37.13 (found), M. D. 37.19 (calcd.); picrate, m. 224°. <i>N</i> -Ethylpyrrolidine (<i>III</i>), b.p. 103.5-4.5°, n _D ²⁰ 1.4352, d ₄ ²⁰ 0.8169, M. D. 31.76 (found), M. D. 31.8 (calcd.); picrate, m. 183°. <i>N</i> -Propylpyrrolidine (<i>IV</i>), b.p. 127-8.5°, n _D ²⁰ 1.4389, d ₄ ²⁰ 0.8171, M. D. 30.62 (found), M. D. 30.37 (calcd.); picrate, m. 101°. The low m. obtained by different investigators for these compds. is caused by contamination with fatty acids formed by the decompr. of the pyrrole ring. <i>III</i> dehydrogenated by the method of Zelinskii at 290° with the Pt-asbestos catalyst gave <i>I</i> and some <i>N</i> -ethylpyrrole. <i>IV</i> (treated at 270° or above) gave pure <i>II</i> .	
Chas. Blanc	
ASG-11A METALLURGICAL LITERATURE CLASSIFICATION	
SEARCH STRATEGY	
SEARCH # 14	SEARCH # 15
SEARCH # 16	SEARCH # 17
SEARCH # 18	SEARCH # 19
SEARCH # 20	SEARCH # 21
SEARCH # 22	SEARCH # 23
SEARCH # 24	SEARCH # 25
SEARCH # 26	SEARCH # 27
SEARCH # 28	SEARCH # 29
SEARCH # 30	SEARCH # 31
SEARCH # 32	SEARCH # 33
SEARCH # 34	SEARCH # 35
SEARCH # 36	SEARCH # 37
SEARCH # 38	SEARCH # 39
SEARCH # 40	SEARCH # 41
SEARCH # 42	SEARCH # 43
SEARCH # 44	SEARCH # 45
SEARCH # 46	SEARCH # 47
SEARCH # 48	SEARCH # 49
SEARCH # 50	SEARCH # 51
SEARCH # 52	SEARCH # 53
SEARCH # 54	SEARCH # 55
SEARCH # 56	SEARCH # 57
SEARCH # 58	SEARCH # 59
SEARCH # 60	SEARCH # 61
SEARCH # 62	SEARCH # 63
SEARCH # 64	SEARCH # 65
SEARCH # 66	SEARCH # 67
SEARCH # 68	SEARCH # 69
SEARCH # 70	SEARCH # 71
SEARCH # 72	SEARCH # 73
SEARCH # 74	SEARCH # 75
SEARCH # 76	SEARCH # 77
SEARCH # 78	SEARCH # 79
SEARCH # 80	SEARCH # 81
SEARCH # 82	SEARCH # 83
SEARCH # 84	SEARCH # 85
SEARCH # 86	SEARCH # 87
SEARCH # 88	SEARCH # 89
SEARCH # 90	SEARCH # 91
SEARCH # 92	SEARCH # 93
SEARCH # 94	SEARCH # 95
SEARCH # 96	SEARCH # 97
SEARCH # 98	SEARCH # 99
SEARCH # 100	SEARCH # 101
SEARCH # 102	SEARCH # 103
SEARCH # 104	SEARCH # 105
SEARCH # 106	SEARCH # 107
SEARCH # 108	SEARCH # 109
SEARCH # 110	SEARCH # 111
SEARCH # 112	SEARCH # 113
SEARCH # 114	SEARCH # 115
SEARCH # 116	SEARCH # 117
SEARCH # 118	SEARCH # 119
SEARCH # 120	SEARCH # 121
SEARCH # 122	SEARCH # 123
SEARCH # 124	SEARCH # 125
SEARCH # 126	SEARCH # 127
SEARCH # 128	SEARCH # 129
SEARCH # 130	SEARCH # 131
SEARCH # 132	SEARCH # 133
SEARCH # 134	SEARCH # 135
SEARCH # 136	SEARCH # 137
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SEARCH # 144	SEARCH # 145
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SEARCH # 152	SEARCH # 153
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SEARCH # 166	SEARCH # 167
SEARCH # 168	SEARCH # 169
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SEARCH # 176	SEARCH # 177
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SEARCH # 196	SEARCH # 197
SEARCH # 198	SEARCH # 199
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SEARCH # 270	SEARCH # 271
SEARCH # 272	SEARCH # 273
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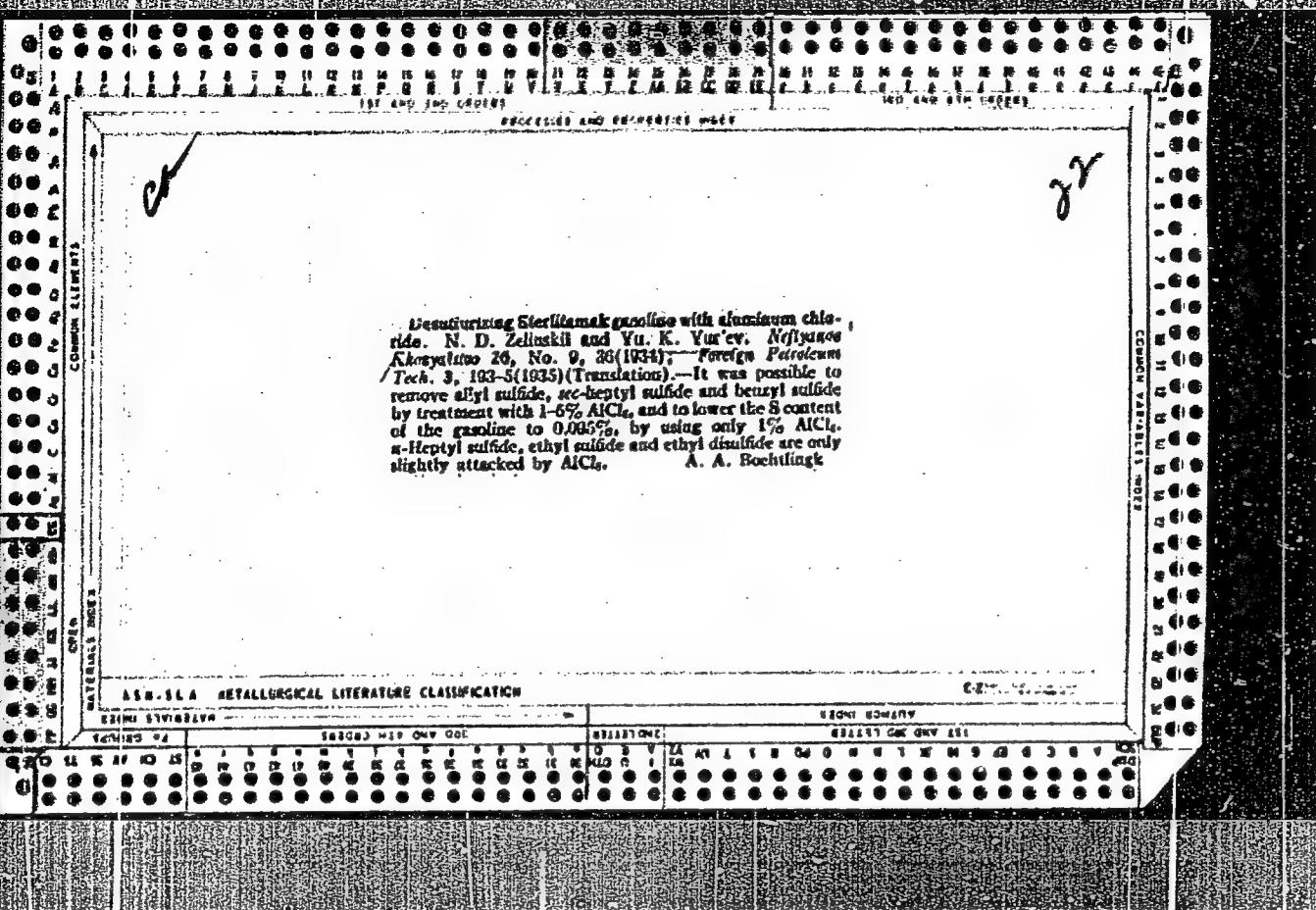
Kinetics of the catalytic dehydrogenation of diethyl-p-toluenes. A. A. Balandin and Yu. K. Yur'ev. J. Phys. Chem. (U.S.S.R.) 5, 395-400 (1933). The speed of the reaction on Ni and Al oxide catalysts was studied as a function of temp. and of the initial concns. of the di-

ter-methylcyclohexane (I) — xylene (II) mixts. (consisting in both cases of all three isomers). For all mixts. constg. 0-100% I the energy of activation from 20° to 35° is 14,700 cal. per mol. but falls to 12,300 in a 10% mixt. Methane formation is slight if I is pure. The rate of dehydrogenation of I is slightly greater than that of cyclohexene. The analyses were made by means of refractive indexes, which are practically a linear function of the compn. of the mixt. of I and II.

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"





*CP**10*

Catalytic aromatization of benzene. N. D. Zelinskii and Yu. K. Yur'ev. *Comp. rend. acad. sci. U. R. S. S.* 2, 225-7 (in German 227-8) (1933).—Samples of benzene were passed over dehydrogenation catalyst (Pt on activated C at 310° or Ni on Al₂O₃ at 300-2°) at 1 cc. per 5 min. and the increase in content of aromatic hydrocarbons in the benzene was detd. The increase varied with the source of the benzene from 25% for those originally high in aromatic hydrocarbons to 100% for those originally low in aromatic hydrocarbons. V. H. M.

A3R-15A METALLURGICAL LITERATURE CLASSIFICATION

CLASS 1: METALS

SUBCLASS 1: IRON

CLASS 2: ALLOYS

SUBCLASS 2: IRON ALLOYS

CLASS 3: NON-METALS

SUBCLASS 3: IRON

CLASS 4: METAL PROCESSING

SUBCLASS 4: IRON

CLASS 5: METAL PROPS

SUBCLASS 5: IRON

CLASS 6: METAL USES

SUBCLASS 6: IRON

CLASS 7: METAL PROPS

SUBCLASS 7: IRON

CLASS 8: METAL USES

SUBCLASS 8: IRON

CLASS 9: METAL PROPS

SUBCLASS 9: IRON

CLASS 10: METAL USES

SUBCLASS 10: IRON

CLASS 11: METAL PROPS

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CLASS 138: METAL USES

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CLASS 139: METAL PROPS

SUBCLASS 139: IRON

CLASS 140: METAL USES

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CLASS 141: METAL PROPS

SUBCLASS 141: IRON</div

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72

Cracking of kerosene and gas oil from Perm crude oil in the presence of aluminum chloride. Yu. K. Yar'ev, Neftegazov. Khar. 1936, No. 2, 58-9.—The kerosene fraction contained 60% aromatic, 25% naphthalene, 15% paraffin hydrocarbons and 2.48% S. The reaction started at 160° and was discontinued at 230-40°. The cracked distillate amounted to 63.5% and contained 4.25% of a "benzene" and 0.8% of a "toluene" fraction, calcd. on the original kerosene. The gas oil contained 66% aromatic, 23% naphthalene, 12% paraffin hydrocarbons and 4.97% S. The cracked distillate started to boil at 260°, yielding about 32.5% of cracked distillate, which contained the same amount of "benzene" and "kerosene" fractions as the kerosene, in addn. to 0.26% S. The cracked fractions, because of their high content in aromatic hydrocarbons, can be directly nitrated. Nineteen references.

A. A. Bochting

ABE-SLA METALLURGICAL LITERATURE CLASSIFICATION

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LEFT SIDE OF CARD

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22

Modification of chemical composition of Saratovian petroleum in migrating from deep to shallow deposits. Yu. K. Yuz'ev. *Sci. Repts. Moscow State Univ.*, 1916, No. 6, 249-71.—The d. of petroleum obtained from surface deposits in 1900 was more than that of petrolium now obtained. Chemical composition of Kala petroleum. Yu. K. Yuz'ev and I. A. Muszev. *Ibid.* 273-5.—Analytical data are recorded. B. C. A.

4.9.3.6 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 09/19/2001

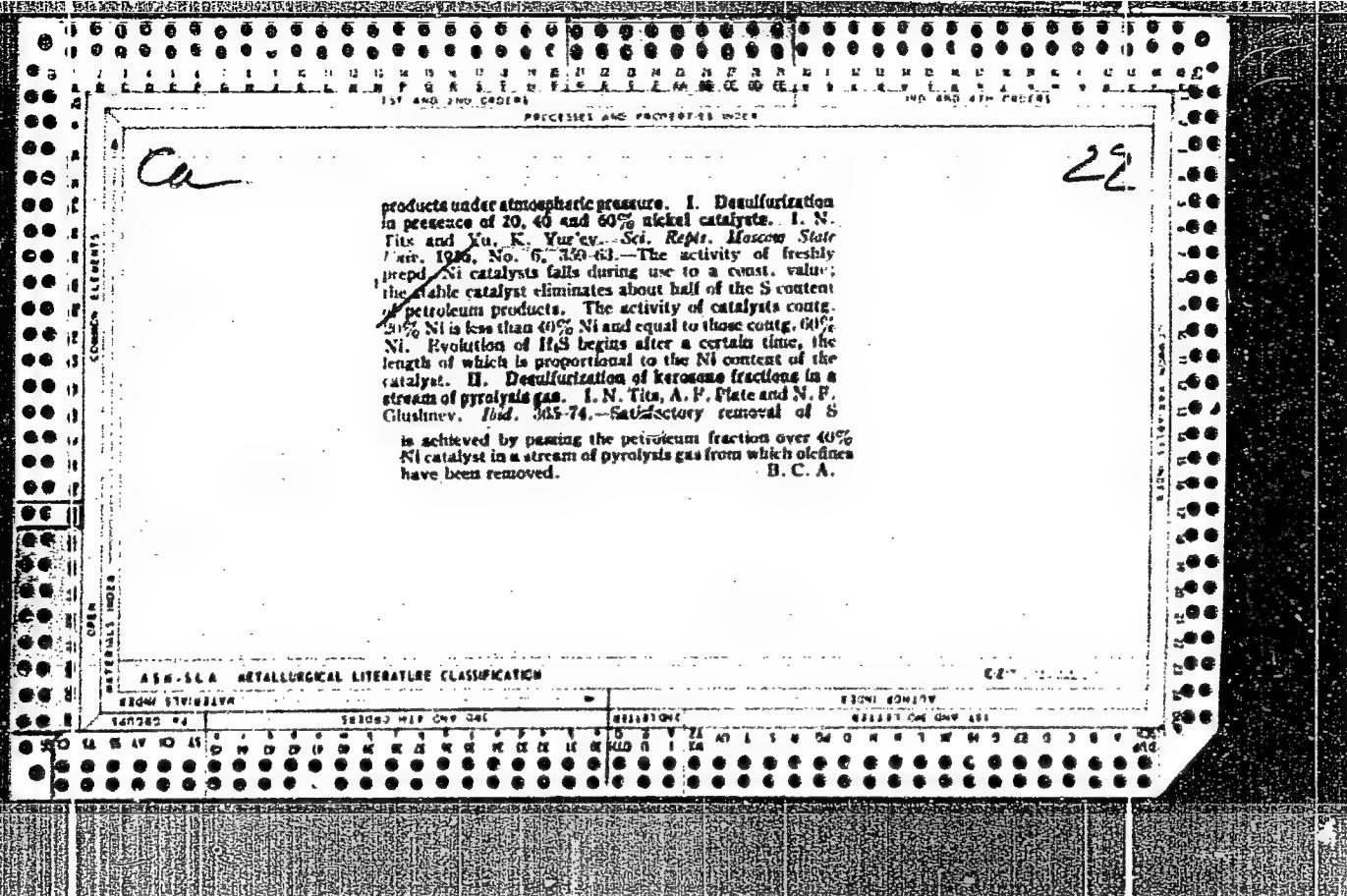
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Catalytic dehydrogenation of *trans*-decahydroquinoline.
By K. V. VETTER and G. I. MUSKAT. *See Effect of
Pressure on Dehydrogenation of Quinolines*, published in
this volume, p. 277. The following is published in
response to the question dehydroquinoline is prepared by
the catalyst at 60°.

ASA-11A - METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"



The action of aluminum chloride on bicyclohexyl-Vn. Kozhevnikov, R. Ya. Levina and A. I. Kudryavtsev. *J. Russ. Chem. Soc.*, v. 11, p. 616 (1888); cf. *C. A.*, 10, 8191. Cracking bicyclohexyl (I) at 160-220° in the presence of AlCl_3 gives a product, b. 15-155°, consisting of cyclohexanes (2), cyclohexene (2), and methane; hydrocarbon 68.5%. The latter are composed of 41% isopentane, i.e., (II). Aromatic compounds, and olefins are not formed. It results in nearly 100% yield from rectified kerosene, m. 71°, by hydrogenating it in the presence of $\text{Ni}(100\%)$ on Al_2O_3 (Zelintsev and Komarovskii, *C. A.*, 18, 2885) at an initial temp. of 100° and 90 atm. The exothermic reaction is regulated at 160° by addition of H_2 every 15-20 min. The results depend on energetic stirring (300 r. p. m.) of the reaction mixt. Chas. Blane

Chas. Blanc

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

*CO**10*

Catalytic Isomerization of normal octane. Vn. K. Vur'ev and P. Ya. Pukin. *J. Gen. Chem. (U. S. S. R.)* 7, 107 (1937); cf. Vur'ev and Zhuravlev, *Neftegaz. Khoz. No. 6* (1938).—The isomerization of octane under the conditions of dehydrogenation was studied by repeated circulation (3 times) of 23 cc. octane at a rate of 5 g. drops a min. in a H₂ current over catalysts at 310°. The isomerization was 15.6% with 20% Pt on activated C, 12.3% with 21% Ni on ZnO and 5.5% with 23% Ni on Al₂O₃. Hence, the latter catalyst is preferable for use in the dehydrogenation of petroleum fractions.

Chat. Blanc

ASZ-251A METALLURGICAL LITERATURE CLASSIFICATION

The cracking of decahydronaphthalene in the presence of anhydrous aluminum chloride. N. Ya. Levin, V. K. Yur'ev and A. I. Likhanskii. J. Russ. Chem. Soc. [C. B. S. R.] 7, 1005 (1937).—The cracked product contains 16-35% aromatic hydrocarbons, 64-77% unsat. alkenes and a small amt. of paraffins. This shows that when double bonds occur in 6-membered rings, AlCl₃ cracking can produce aromatic compounds. H. M. L.

A&I:SLA METALLURGICAL LITERATURE CLASSIFICATION

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APPROVED FOR RELEASE: 09/19/2001

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Ca

Cracking bicyclopentyl in the presence of anhydrous aluminum chloride. Yu. K. Voevodin, R. Va. Levina and M. I. Svetlov. J. Gen. Chem. (U. S. S. R.) 7, 1581 (1937); cf. T. A. H., 2173. Cracking bicyclopentyl under the conditions previously used gives 35.5% hexamethylene compds., 40.0% pentamethylene and 18.5% paraffin hydrocarbons. The pentamethylene ring is more stable toward splitting by AlCl₃ than the hexamethylene ring, but it is less stable toward isomerization. The higher homologs of cyclopentane are more easily isomerized to cyclohexyl derivs. than is methylcyclopentane.

H. M. Lester

ARMED SERVICES METALLURGICAL LITERATURE CLASSIFICATION

Catalytic transformations of heterocyclic compounds. VII. Transformation of tetrahydrofuran (furolidine) into pyrrolidine and thiophane. Yu. E. Vurber and M. N. Fruktsina. *J. Russ. Chem. U. S. S. R.* 7, 1808-7 (1937); *Chem. Abstr.* 31, 13794. When tetrahydrofuran is passed over Al_2O_3 at 400° with NH_3 , it gives 43% pyrrolidine. If H_2S replaces NH_3 , it gives 67% thiophane. These reactions occur more easily than the corresponding ones with furan, but the mechanism is probably the same.
H. M. Leicester

H. M. Leeser

METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

Catalytic transformations of heterocyclic compounds. VIII. Transformation of tetrahydrofuran (furanidine) into *N*-arylpurridines. Yu. K. Var'ev and G. A. Mikhalkina. *J. Gen. Chem. (U. S. S. R.)*, 24(5 Pt. 2), 1937; cf. *C. A.*, 32, 6487. When tetrahydrofuran with 2 mols. of a primary aromatic amine is passed over AlCl₃ in a 11 current at 400° it gives *N*-aryl-substituted purridines. *N*-*p*-Phenylpurridine (46.5% yield), b.p. 107°, d₄²⁰ 1.0178, n_D²⁰ 1.681, M. Rp 48.17 (calcd. 48.31), exaltation 1.81; picrate, m. 116°. The product purified by means of a C₁₂H₈SO₄Cl showed practically the same M. Rp. This mol. exaltation cannot thus be ascribed to any impurities, but is probably caused by the presence of a substituted amino group combined with the C atom of the Cefring. Such a discrepancy between the dectd. and calcd. mol. refractions was observed in disubstituted amines by Brühl (*J. Phys. Chem.*, 16, 218). *N*-*o*-Tolypurridine (43.4% yield), b.p. 103.4°, d₄²⁰ 0.9881, n_D²⁰ 1.5538, M. Rp 52.04, exaltation 1.5; picrate, m. 101.5-2°. *N*-*p*-Tolypurridine (52.7% yield), b.p. 125-7°, m. 41.5°, d₄²⁰ 0.9728, n_D²⁰ 1.5583, M. Rp 53.42, exaltation 2.25; picrate, m. 111°. Cyclohexylamine, b.p. 132-4°, obtained from PhNH₂ with H at 125° and 60 atm. in the presence of Ni on Al₂O₃ (cf. *C. A.*, 31,

2173), gave 62.9% *N*-cyclohexylpurridine, b.p. 79°, d₄²⁰ 0.9135, n_D²⁰ 1.6818, M. Rp 48.08 (calcd. 47.92); picrate, m. 104.5°. Twelve references. IX. Synthesis of 1,6-disubstituted pyrroles. Yu. K. Var'ev. *Ibid.*, 8, 116-19. *o*-Methyllurea in 3 mols. of a primary arylamine when passed at the rate of 15 drops per min. over Al₂O₃ at 475° in a 11 current gave 1-aryl-2-methylpyrrole. Because of a partial decomposit. the yields of the latter are considerably lower than those of *N*-arylpurridines similarly obtained from furan (cf. *C. A.*, 30, 8267). 1-*P*henyl-2-methylpyrrole (12% yield), b.p. 118-19°, d₄²⁰ 1.0114, n_D²⁰ 1.562, M. Rp 50.7 (calcd. 50.2). 1-*p*-Tolyl-2-methylpyrrole (10% yield), b.p. 111.5-13°, d₄²⁰ 1.0081, n_D²⁰ 1.569, M. Rp 55.29 (calcd. 54.82). *p*-*B*enzo (10% yield), b.p. 119-21°, d₄²⁰ 1.0132, n_D²⁰ 1.568, M. Rp 55.8. These new pyrrole derivatives show no reactivity toward KMnO₄ and NaNO₂; they do not react with K in ligroin and when oxidized do not give Ba(OH)₂ and *o*- and *p*-phthalic acid, resp.; this shows that the aryl radical is not connected with the C atom of the pyrrole ring. C. R.

ASA-LSA METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED	SERIALIZED	INDEXED	FILED	SEARCHED		SERIALIZED		INDEXED		FILED	
				1400-19	19	1400-19	19	1400-19	19	1400-19	19

Chemical composition of Chughrach petroleum.
Yu. K. Turley and V. M. Kotelnikova. *Neftegaz. Khim.*
16, No. 8, 47-8 (1937); *Chemie & Industrie* 19, 1088.
This crude oil can be considered as a light petroleum;
it gives 21.7% of fractions distg. below 300°. The solid
paraffin content is only 0.31% and the S content 0.31%.
Chughrach petroleum is closely related to Grozny
nonparaffinic petroleum, but has a peculiarity in the
naphthalene content of the motor-gasoline fraction: the
hexahydronaphthalene hydrocarbon content of the 105-122°
fraction is 4 times that of the 101-105° or the 122-150°
fraction. A. Papineau-Couture.

22

CATALYTIC TRANSFORMATIONS OF HETEROCYCLIC COMPOUNDS

K. Synthesis of *N*-substituted pyrroles, *N*- and α -substituted pyrrolidines and α -methylthiophene. Yu. K. Yur'ev. *J. Gen. Chem. (U. S. S. R.)* 8, 1934-81n (English, 1938) (1938); cf. *C. A.* 32, 5309c. Reaction of α -substituted tetrahydronaphthalene with NH_2 and primary aliphatic amines in the presence of Al_2O_3 at 400-40° gives α -substituted pyrrolidines and with HgS under the same conditions α -substituted thiophenes. α -Methylenetetrahydrofuran (**I**) with NH_2 , MeNH_2 (**II**) and Et_2NH (**III**) gives, resp., α -methylpyrrolidine (27% yield), *b.p.* 104-115°, n_D^{20} 1.4372, d_4^{20} 0.8307; *N*, α -dimethylpyrrolidine (34.5% yield), *b.p.* 90-7°, n_D^{20} 1.4253, d_4^{20} 0.7994; and *N* ethyl- α -methylpyrrolidine (28% yield), *b.p.* 119-20°, n_D^{20} 1.4225, d_4^{20} 0.8028. **I** with HgS gives α -methylthiophene (60% yield), *b.p.* 101.2-115°, n_D^{20} 1.0622, d_4^{20} 0.8541. Tetrahydronaphthalene (**II**) gives *N*-methylpyrrolidine (35.5% yield), *b.p.* 79.5-84°, n_D^{20} 1.4292, d_4^{20} 0.8028, and with **III** *N*-ethylpyrrolidine (50.3% yield), *b.p.* 104.5-115°, n_D^{20} 1.4380, d_4^{20} 0.8084. Puran with **II** gives *N*-methylpyrrole (24.5% yield), *b.p.* 115-8°, n_D^{20} 1.0601, d_4^{20} 0.8088, and with **III** gives *N*-ethylpyrrole (27% yield), *b.p.* 120.5-131°, n_D^{20} 1.0611, d_4^{20} 0.8000, together with a small amt. of *N*-ethylpyrrole, *b.p.* 100-70°.

John Livak

410-55A METALLURGICAL LITERATURE CLASSIFICATION

CA

Catalytic transformations of heterocyclic compounds.
II. Combined catalytic dehydration of furan and furandim (tetrahydrofuran) with secondary and tertiary amines. Yu. K. Yurley. *J. Gen. Chem. (U. S. S. R.)* 9, 153-9 (1939); cf. *C. A.* 33, 5843^a.—It had been shown that furan and tetrahydrofuran (**I**) are readily converted by primary amines in the presence of Al_2O_3 at 400° into *N*-substituted pyrroles and pyrrolidines, resp. (cf. *C. A.* 32, 6300^b). Similar reaction of **I** with Et₂NH and Et₃N formed considerable C₂H₄ and *N*-*alkylpyrrolidine* (**II**) in 29% and 6% yield, resp. It is believed that the reaction proceeds with intermediate formation of Et₂NCH₂(CH₂)₂CH₂OH (**III**), which is hydrolyzed to give the mono-Et deriv. and EtOH and these are dehydrated to yield **II** and C₂H₄. The H₂O liberated in the reaction aids in the hydrolysis of **III**. The reaction of 8 g. each of furan and Et₃N gave considerable CO and 0.5 g. of a liquid product contg. traces of *N*-ethylpyrrole (**IV**). The probable cause of the poor **IV** yield is that the tautomerization of the intermediate 1-hydroxy-4-diethylamino-1,3-butadiene into the amino aldehyde, Et₂NCH₂CH₂CHO, and its decompr. into Et₂NCH₂CH₂Me and CO proceed at a much greater velocity than the reactions of hydrolysis and dehydration to **IV** (cf. *C. A.* 31, 1399^c). C. B.

Lab. Org. Chem. im. N.-D. Zelinskij, Moscow State U.

ALL SLA - METALLURGICAL LITERATURE CLASSIFICATION

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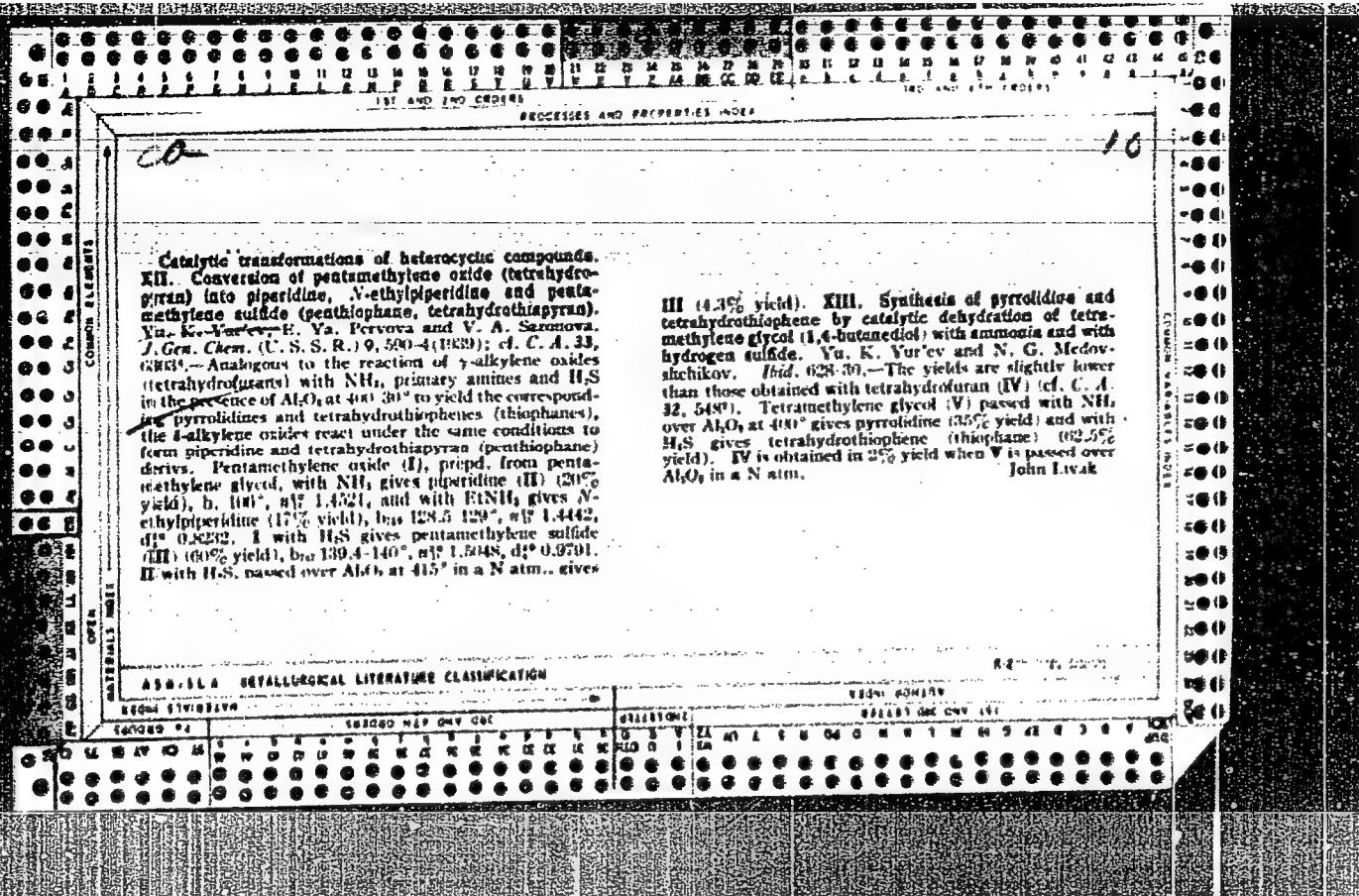
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CP

Catalytic reactions of heterocyclic compounds. XIV.
 Mechanism of transformation of oxygen-containing five-membered heterocyclic rings to nitrogen- and sulfur-containing heterocycles. Yu. K. Yur'ev, Kh. M. Minachev and K. A. Samukayeva. *J. Gen. Chem. (U. S. S. R.)* 9, 1710-16(1939); cf. *C. A.* 33, 7778^a. — To prove that intermediate hydroxy amino and hydroxy mercapto compds. are formed when tetrahydrofuran is converted into pyrrolidine or tetrahydropyrene at high temps. over an Al_2O_3 catalyst the authors showed that these proposed intermediates react smoothly under the conditions to yield the expected compds. Tetrahydrofuran was prepd. by catalytic hydrogenation of furan in the presence of palladized asbestos and also by hydrogenation of furan in an autoclave in the presence of Ni on Al_2O_3 . Yield 86%, b.p. 64.5-5.5°. Tetramethylene chlorobydine (I), prepd. by the action of HCl on tetrahydrofuran, b.p. 63-4°, n_D²⁰ 1.4520, d₄₀²⁰ 1.0867; yield 65-7%. Bennett's method (cf. *C. A.* 23, 2422) was used for the prepn. of I. The yield was 66%, b.p. 70°, n_D²⁰ 1.4910, d₄₀²⁰ 1.0289, M.R._b 29.85 (calcd. 29.50). It is a colorless oil with a terrible odor. It was converted into tetrahydropyrene by passing 7-8 drops a min. over Al_2O_3 at 250°, 300°, 350° and 400°. Likewise, tetrahydrofuran and H_2S were converted into tetrahydropyrene. The yields were favored by increase in temp. (at 400° 95% was obtained from I and 90.5% from the furan). In every case I gave a higher yield than tetrahydrofuran. A yield of only 23.5% of tetrahydropyrene was obtained when concd. H_2SO_4 at 0° was used to dehydrate I. A similar yield was obtained when I and H_2S were passed at 400° over Al_2O_3 . I was treated with PbBr_2 and 1-chloro-4-bromobutane, b.p. 63-4°, n_D²⁰ 1.4955, was obtained. The Gabriel reaction (*Ber.* 24, 2224(1891)) gave pyrrolidine instead of 1-chloro-4-bromobutane. A 34% yield of pyrrolidine was obtained by passing I and NH_3 over Al_2O_3 at 400°. D. Akshev.

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 Moscow State U.
 Lab. Org. Chem.
 M. N. D. Zel'vin
 Skly.

ASH-SLA METALLURGICAL LITERATURE CLASS

CA

f5

Catalytic transformations of heterocyclic compounds.
XV. The stability of the catalyst and optimum conditions
in the transformation of tetrahydrofuran into pyrrolidine
and thiophane and in that of furan into thiophene. Yu. K.
Yur'ev and V. A. Trouvva. *J. Gen. Chem. (U. S. S. R.)*
10, 31-4 (1940); cf. *C. A.* 34, 3731. — In the methods
previously described the transformation of tetrahydro-
furan (furandilin) into pyrrolidine and thiophane (*C. A.*
32, 648) and that of furan into thiophene (*C. A.* 30,
3813) are best effected at 40° by passing the reactants
at a rate of 8 drops/min. in a strong current of NH₃ and
H₂S, resp. In the region of pyrrolidine and thiophane
a 40-cm. layer and in that of thiophene a 72-cm. layer of
the Al₂O₃ catalyst are used. The activity of the catalyst
remains practically const. for long periods of the reactions.
Chas. Blatt

ASIN-1A. METALLURGICAL LITERATURE CLASSIFICATION

ITEM 11710314

Tentative - 64

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The catalytic transformations of heterocyclic compounds. VI. The synthesis of some pyridine and quinoline derivatives of pyrrolidines. Yu. S. Yurchyuk, V. I. Razin, A. N. Emlova, S. M. Seliverstova and S. I. Cheraszakhover. *J. Russ. Chem. Soc.* (U. S. S. R.) 10, 1839-42 (1940); cf. *C. A.* 34, 4733. — When 2-aminopyridine (I) and tetrahydrofuran (II) are passed over Al_2O_3 in a N_2 stream at 300°, they give 17% $N-(2\text{-pyridyl})$ pyrrolidine, bp 102°, d_4^{20} 1.044, $\eta_2^{\text{D}} 1.5797$, *M.R.* calcd. 45.04, found 45.29 (*picrate*, m. 198°). Similarly, II and 3-aminopyridine (III) at 400° give 18% $N-(3\text{-pyridyl})$ pyrrolidine, bp 124-5°, d_4^{20} 1.0700, η_2^{D} 1.5833, *M.R.* calcd. 45.04, found 45.34 (*picrate*, m. 195.5°). 2-Methyltetrahydrofuran (IV) and I give 14% $N-(2\text{-pyridyl})$ -2-methylpyrrolidine, bp 110°, d_4^{20} 1.0313, $\eta_2^{\text{D}} 1.5756$, *M.R.* calcd. 49.56, found 51.25 (*picrate*, m. 131°). III and IV give 17% $N-(2\text{-pyridyl})$ -2-methylpyrrolidine, bp 118-19°, d_4^{20} 1.0434, $\eta_2^{\text{D}} 1.5718$, *M.R.* calcd. 49.80, found 51.14 (*picrate*, m. 128-8.5°). II and α -aminoquinoline give 9.5% $N-(\alpha\text{-quinaldyl})$ pyrrolidine, bp 171°, d_4^{20} 1.1332, $\eta_2^{\text{D}} 1.5604$, *M.R.* calcd. 60.28, found 64.57 (*picrate*, m. 152.5°). H. M. Leicester

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AM-12A METALLURGICAL LITERATURE CLASSIFICATION

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APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

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Catalytic transformations of heterocyclic compounds XVII. The use of the reaction of triclorination of oxygen-containing heterocyclic compounds into nitrogen- and sulfur-containing compounds in establishing the structure of cyclic oxides. Vu, K. Yur'ev, V. I. Gusev, V. A. Tronova and P. P. Vasil'eva. *J. Gen. Chem. (U. S. S. R.)* **41**, 344-8 (1971); *I. G.* **43**, 677. The compd. obtained by Franke and Lieben (*C. A.* **60**, 1019) by dehydrogenation of 1,3-hexanediol with H_2S , was stated by them to be 2-methyltetrahydropyran. The dehydrogenation actually yields a mixt. of compds., but the chief product has int. Δ^2 . When it is passed over $Al(OEt)_3$ at 300° in an NH_3 stream, it gives 2-ethylpyrrolidine, and when the gas is H_2S , the product is 2-ethyltetrahydropyran, mp 135.5-0.5°, n_D^{20} 1.4890, D_2° 0.9451, $M.R$ calcd. 35.08, found 35.36 (HgCl₂ compd., m. 100°). The structure of this is proved by its prepn. from synthetic 2-ethyltetrahydropyran (I). Thus the compd. of *V*, and *I*, is actually *I*. An increased no. of C atoms in the side chain of substituted γ -alkene oxides causes a lower yield of product when they are converted to the corresponding N and S compds.

H. M. Leicester

YUR'EV, Yu. A.

Reactions of some heterocyclic compounds with H₂S. I.—Reactions of dihydrofuran and dihydrofuran 1,4-heterocycles containing nitrogen and sulfur.
Yu. A. Yur'ev, S. E. Dubrovina, and E. P. Tregubov (Moscow State Univ.). J. Russ. Chem. (U.S.S.R.) 16, 943-50 (1946); cf. C.A. 37, 4971".—Dihydrofuran (2 g.) passed over Al₂O₃ at 400° in an H₂S stream gave 0.2 g. pyrrolidine, b. 83-85° (cicrate, m. 111-112°), and 0.5 g. pyrrole, b. 130-140°; much decompr. was observed. Dihydrofuran (7 g.) passed over Al₂O₃ at 325° in a H₂S stream gave 0.4 g. thiophene and a very small amt. of tetrahydrothiophene; somewhat greater yields, and more decompr., were obtained at 400°. 3-Bromotetrahydrofuran passed over Al₂O₃ in a stream of H₂S gave at 400° 2 g. of crude product, which dropped to 1 g. at 300° (10 g. starting material in all cases), and was sepd. into thiophene and tetrahydrothiophene. Dihydrofuran failed to undergo a transformation after passage over a Pt-charcoal catalyst at 140-200°, but on standing at room temp. in a sealed tube it yielded a minute amt. of furan. Tetrahydrofuran was unchanged by passage over this catalyst at 400°. Dihydrogyran gave 60% dihydrothiogyran, b₇₄₃ 143.6-4.2°, n_D²⁰ 1.5328, d₄²⁰ 1.0244, after passage over Al₂O₃ at 400° in a H₂S stream. XX. Transformations of heterocycles containing oxygen into heterocycles containing selenium.
Yu. A. Yur'ev. Ibid. 851-4.—Furan (10 g.) was passed over Al₂O₃ at 450° in a current of H₂Se; the product, after washing with alkali, was identified as selenophane, b. 110-10.7° (23%), n_D²⁰ 1.5642, d₄²⁰ 1.5251. Tetrahydrofuran on similar treatment at 400° gave 54% selenophane (tetrahydroselenophane), b₇₄₃ 139.2-9.6°, n_D²⁰ 1.5479, d₄²⁰ 1.4715. Similarly, pentamethylene oxide at 400° gave 50% pentamethylene selenide, b₇₅₅ 159-9.5°, n_D²⁰ 1.5461, d₄²⁰ 1.3962.

G. M. Kosolagoff

YURIEV, Yu. K.

"Catalytic Transformations of Heterocyclic Compounds. XI. The transformation of Heterocycles containing oxygen into Heterocycles containing selenium." by Yu. K. Yuriev (p.853)

SO: Journal of General Chemistry (Zhrurnal Obshchey Khimii) 1946, Volume 16, No. 6

Catalytic transformations of heterocyclic compounds. **XXXI. Transformation of furan and furanoid fatty hydrocarbons.** Yu. K. Yur'ev, V. A. Tronova, M. Ye. Kurnetsova, and B. O. Novosadova (Moscow State Univ.). *J. Gen. Chem. (U.S.S.R.)* 17, 131-61 (1947) (in Russian); cf. *C.A.* 41, 1656c. —Furan (5 g.) was passed over Al_2O_3 in a strong current of C_2H_2 at 275° ; the catalyst slowly became covered with a brown deposit and had to be regenerated occasionally by air-blowing. The catalyst temp. rose initially up to $405-430^\circ$ becoming stabilized generally at about 380° . The yield of products was $1.5-1.95\text{ g.}$ The combined products from 10 runs were dried over CaCl_2 and fractionated. A fraction (0.7 g.), b. $78-84^\circ$, bp 1.4701 , contained cyclohexadiene, formed evidently by bond redistribution of the initially formed cyclohexyne. A fraction (1.1 g.), b. $100-21^\circ$, n_D²⁰ 1.4740, appeared to be a product of C_2H_2 condensation over Al_2O_3 , admixed with methylcyclohexadiene (from propylene and C_2H_2). Furan (5 g.) was passed over activated C in 2.5 hrs. in a H stream at $375-380^\circ$; the best yield (16%) of butadiene was obtained at 425° ; when Cu (5%) on activated C was used at $200-430^\circ$, the best yield of butadiene (20.1%) was obtained at 435° when 5% furan was passed through the catalyst in 1.6 hrs. The results are interpreted as favoring the possibility of petroleum formation from carbonylative matter in nature.

G. M. Kowalewski

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

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Behavior of 3-bromofuranidine in the Grignard reaction.
 L. Yu. K. Xur'ev, M. G. Voronkov, I. P. Gragerov, and
 G. V. Kondratenko, *Zhur. Obshch. Khim.* (J. Gen.
 Chem.) **18**, 1841-10 (1948); cf. following abstract.
 Halofuranidines (3-halotetrahydrofurans) react with Mg
 only sluggishly, yielding mixed organo-Mg compds. which
 rearrange to a great extent, with ring opening, to give
 MgN derivs. of γ -unsatd. primary alics. and react only to a
 minor extent as true Grignard reagents. Use of Na in place
 of Mg results in complete rearrangement and ring opening.
 3-Bromofuranidine (75 g.) in Et_2O was added to 12 g. Mg
 (activated by iodine) in 200 ml. Et_2O over 10 hrs. with
 stirring and boiling; let stand overnight, heated 2 hrs.,
 treated with 67 g. allyl bromide in Et_2O , boiled 1 hr., and
 treated with dil. H_2SO_4 ; the usual treatment gave a variety
 of products from which were recovered 6 g. allylcyclized
 bns. 113.5-14.5°, d_4^{20} 0.8454, n_D^{20} 1.4227; 3.6 g. 3-allylfur-
 anidine, bns 140.5-41°, d_4^{20} 0.8820, n_D^{20} 1.4440; and 40 g.
 unchanged starting material. 1-Penten-4-ol, bns 114.5-
 10°, d_4^{20} 0.8314, n_D^{20} 1.4245, was obtained in 57% yield
 from C_6H_5MgCl and AcH ; this (93 g.) in CH_2Cl_2 was
 treated with 60 g. Br in $CHCl_3$ with cooling and, after
 evapn., the crude dibromide was shaken 24 hrs. with 20 g.

powd. KOH in Et_2O , with addn. of 20 g. KOH every 4 hrs.,
 to yield 43% 2-methyl-3-bromofuranidine, bns 64.5°, d_4^{20}
 1.4231, n_D^{20} 1.4730. This (82 g.) was slowly added to
 12 g. Mg in Et_2O at reflux, heated 2.5 hrs., let stand
 with 80 g. allyl bromide in Et_2O , heated 2.5 hrs., let stand
 overnight, and treated as above to yield 28% 1-penten-4-
 ol and 1.5 g. 2,2'-dimethyl-4,4'-bifuranidine, bns 101.5-2°,
 d_4^{20} 0.9056, n_D^{20} 1.4533. If the reaction mixt. with Mg is
 decompd. by dil. acid prior to addn. of allyl bromide, the
 products include (low yields): 2-methylfuranidine, bns
 79-80°, d_4^{20} 0.8556, n_D^{20} 1.4002; the above-described bi-
 furanidine, and 27% 1-penten-4-ol. Addn. of 38 g. 3-
 bromofuranidine to a dry Et_2O soln. of $MgBr$ (obtained in
 anhyd. state from 12.1 g. Mg and 95 g. $BrCH_2CH_2Br$)
 yields a bulky ppt.; heating 20 hrs. and decompn. by
 H_2O gave 30 g. unchanged starting material and traces of
 lower- and higher-boiling materials, which were not identi-
 fied. Addn. of 38 g. 3-bromofuranidine to 23 g. Na in
 Et_2O , and 4 hrs.' refluxing gave 80% 1-buten-4-ol, bns
 112.5-13.5°, d_4^{20} 0.8440, n_D^{20} 1.4232. G. M. K.

USSR/Chemistry - Synthesis
Furans

Oct 48

"Synthesis of Beta-Alkylfuranidines, II," Yu. K.
Yur'yev, I. P. Gragerov, Moscow Ord of Lenin State
U imeni M. V. Lomonosov, Lab of Org Chem imeni Acad
N. D. Zelinskiy, 5 pp

"Zhur Obshch Khim" Vol XVIII, No 10

Gives general method for synthesis of beta-alkyl-
tetrahydrofurans by reaction of lithium alkyls
with beta-bromotetrahydrofuran. Ring opening
occurred by action of Mg on beta-bromotetrahydro-
furan with formation of 3-buten-1-ol. Submitted
22 Sep 47.

2/50T68

IUR'EV, IU. K.

Iu. K. Iur'ev and I. P. Gragerov, Synthesis of β -alkyl-furanidines. II. p. 1811

This work gives a general method for the synthesis of β -alkyl-furanidines by interaction of lithium alkyls with β -bromo-furanidine. It is shown that the reaction of lithium on β -bromo-furanidine causes the opening of the ring of the latter to occur with the formation of allyl carbinol.

The Lomonosov, Moscow State University, Holder of the Order of Lenin
The Zelinskii Lab. of Organic Chem., September 22, 1947

SO: Journal of General Chemistry (USSR) 28, (80) No. 10 (1948):

PA 53/49225

USSR /Chemistry - Hydration
Chemistry - 2-Butyne-1, 4-Diol
Oct 48
"Hydration of 2-Butyne-1, 4-Diol," Yu. K. Yur'yev,
I. K. Korobitsyn, Té. N. Triko, Inst of Org Chem
Imperial Acad N. D. Zelinsky, Moscow State U Imeni
M. V. Lomonosov, 12/3 pp

"Dok Ak Nauk SSSR" Vol LXII, № 5

Hydration of 2-butyne-1, 4-diol in methanol in
presence of mercuric sulfate or its solution in
27% sulfuric acid gave a 37% theoretical yield of
4-methoxy-1-butanol-2-one, b.p. 86.5 at 9 mm,
d (20/4), 1.095, n (20/0), 1.4395. Use of other

53/49225

USSR /Chemistry - Hydration (Contd) Oct 48

Solvents resulted in resinification. Submitted
by Acad A. N. Nesmeyanov, 13 Aug 48.

YUR'YEV, YU. K.

53/49225

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Hydration of 2-butyne-1,4-diol. Yu. K. Yur'yev, I. K. Karabutova, and E. K. Brige. *Doklady Akad. Nauk SSSR*, **63**, 645-7 (1948). Hydration of 2-butyne-1,4-diol (**I**) in MeOH in the presence of Hg sulfate gives 4-methoxy-1-butanol (**II**). **I** (13 g.) was added in 32 g. MeOH to 32 g. MeOH and 2 g. Hg sulfate with cooling, then stirred 8 hrs., with addn. of two 2-g. portions of Hg sulfate, neutralized with Na_2CO_3 , filtered, dried, and distilled, yielding 37% **II**, bp 86.5-7.5°, d_2^{20} 1.005, n_D^{20} 1.4305. The result was the same if 37% HgSO_4 was used for the medium. **II** gives a *2,4-dinitrophenylhydrazone* in 22% yield (from HgO). The product results from migration of the OH group to give a 1,2-diol of allene type, which rearranges to an acyclon and then adds MeOH to give **II**. G. M. Kosolapoff

PA 55/49120

YUR'YEV, YU. K.

USSR/Chemistry - Ethylene
Chemistry - Hydrogen Sulfide

Nov 48

"Interaction of ~~Ethylenic~~ Sulfide with Hydrogen
Sulfide in the presence of Aluminum Oxide," Th.
Yu. Yur'yev, K. Yu. Novitskiy, Lab of Org Chem, Institute
of N. D. Zelinsky, Moscow State University M. V.
Losoncov, 3 pp

"Dok Ak Nauk SSSR" Vol IIII, No 3

Study of interaction of ethylene oxide with
hydrogen sulfide in presence of aluminum oxide
at 200° showed that basic reaction products, five-
and six-member heterocyclic compounds with two
heteroatoms, were acetaldehyde-thiacetal, dioxane

55/49120

USSR/Chemistry - Ethylene (Contd)

Nov 48

thioxane and acetraldehyde. During contact of
ethylene oxide with aluminum oxide, both dioxane
and acetraldehyde were obtained at 200°. Latter
was disproportionated. Submitted by Aod A. N.
Demeyanov 15 Sep 48.

55/49120

Avt: YUR'YEV, Yu. K., ALYEKSANDROV, L. Ye., ARDATSKIY, A. V. [TDR]

29566

Sintyee nyekotorykh gomologov i N-eamyeshchennykh pirrola i pirrolidina.
Zhurnal Obshch Khimii, 1949, vyp. 9, s. 1730-33. -Bibliogr: s. 1733

SO: LETOPIS' NO. 40

PA 65/49T27

YUR'YEV, Yu. K.

USSR/Chemistry - Heterocyclic
Compounds

Apr 49

Furan - Tetrahydro-

"Contact Conversion of Pyrrolidine Pyrrololine
and Thiophane XIII" Yu. K. Yur'yev, A. A. Buger
kova, Moscow Ord of Lenin State U imeni M. V.
Lomonosov Lab of Org Chem imeni Acad N. D.
Zelinskiy 3/2 pp

"Zhur Obozch Khim" Vol XIX, No 4

Complete hybrids of these five-membered heterocyclic

compounds (pyrrolidine, pyrroline, furan, pyrrole

and thiophane) were obtained by reaction of the

corresponding Sulfuric acid at 40° C. in DMF

with tetraalkylammonium salts.

PA 65/49T28

YUR'YEV, Yu. K.

USER Chemistry - Thiophene, Tetrahydro- Apr 49
Furn, Tetrahydro-

"The Preparation of Alpha-Beta- and Alkylsulfanidine
into Their Corresponding Thiophenes, XIII,"
Yu. K. Yur'yev, I. P. Gragerov, Moscow Ord. of
Lomonosov, Leningrad, Lab or Org
Chem. Inst. Acad. N. D. Zelinsky, 54 pp

Zur Deutsch Khim Vol XIX, No 4

Alpha-alkyl and beta-alkyl-thiophenes are prepared by the subject reaction, which gives a greater yield (72-81% of the theoretical) of the beta-alkyl-thiophenes than of the alpha-compounds

65/49T28

JESK, Chem.istry - Thiophene, Tetrahydro- Apr 49
(Contd)

(Chemical part is 65-70% of the theoretical). The former do have higher boiling points, specific gravities and indexes of refraction than the latter. Submitted 31 Jan 48.

65/49T28

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Synthesis of some homologs and *N*-substituted derivatives of pyrrole and pyrrolidine. Yu. K. Yur'ev, L. R. Aleksandrov, A. V. Arshatikil, V. M. Karataev, I. K. Korobitsyna, and M. A. Pyranishnikova. *Zhur. Obshch. Khim.* (J. Gen. Chem.) 19, 1730-31 (1949); cf. *Uchenye Zapiski Moskov. Gosudarstv. Univ.*, No. 79 (1948).—Furan (12 g.) and 17 g. AmNH_2 passed in a N_2 stream at 8-10 drops per min. over Al_2O_3 at 405-50° gave 14% *1-aminopyrrole*, b_{10} 05-6°, d_2^{20} 0.8643, n_D^2 1.4731. Similarly, at 450°, 8 g. 2-ethylfuran in NH_3 gave 5% *2-ethylpyrrole*, b_{10} 164-5°, d_2^{20} 0.9042, n_D^2 1.4942. Furanimine (I) (18 g.) and 14.4 g. allylamine at 400° gave *1-allylpyrrolidine*, isolated as the *tarate*, m. 141° (from EtOH), in unquoted yield, with much tar. I (7 g.) and 9.7 g. AmNH_2 at 400° gave 55.5%; *1-aminopyrrolidine*, b_{10} 81-3°, d_2^{20} 0.8191, n_D^2 1.4430; *tarate*, m. 117.5-18° (from EtOH). I (5 g.) and 5.6 g. cyclopentylamine at 400° gave 40% *1-cyclopentylpyrrolidine*, b_{10} 91-2°, d_2^{20} 0.8992, n_D^2 1.4744; *tarate*, m. 140.5-51°. Furanimine (30 g.) and 10 g. $(\text{CH}_3\text{NH})_2$ at 400° gave 1.3 g. *1,1'-ethylenedipyridine*, b_{10} 151-2°, d_2^{20} 0.9880, n_D^2 1.4715. Similarly, 20 g. I and 10 g. $m\text{-C}_6\text{H}_4(\text{NH}_2)_2$ gave 2.8 g. *1,1'-m-phenylenedipyridine*, b_{10} 137-0°, d_2^{20} 1.071, n_D^2 1.5010; *tarate*, m. 120-7° (from EtOH). 2-Ethylfuranimine (10.2 g.) in NH_3 similarly gave 9%; *2-ethylpyrrolidine*, b_{10} 122-3°, d_2^{20} 0.8835, n_D^2 1.4420; *tarate*, m. 94-5° (from EtOH).

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Catalytic dehydration of 4-amino-1-butanol. XXV
Yu. K. Yar'ev, G. P. Mikhalevskii, and S. Z. Shapiro,
(Lomonosov State Univ., Moscow). Zhur. Obshchei
Khim. (J. Gen. Chem.) 19, 2217-2219 (1949); cf. C.A. 32,
5181; 44, 10923, 14824. -Hydrolysis of $\text{Cl}(\text{CH}_2)_3\text{OH}$
by aq. $\text{K}_2\text{Cr}_2\text{O}_7$ gave 80% $\text{HO}(\text{CH}_2)_3\text{OH}$; by 108-10², d₄₂
1.0407, w_D 1.4308, while with HCl gave $\text{Cl}(\text{CH}_2)_3\text{OH}$.
By 80-4%, d₄₂ 1.1322, w_D 1.4486. This (110 g.) in 310
ml. H_2O was refluxed 8 hrs. with 96 g. KCN in 115 ml.
w_D 1.4178. This (21 g.) in 200 ml. Bu_2N treated at
reflux temp. with 13 g. Na yielded 24% $H_2\text{N}(\text{CH}_2)_3\text{OH}$
(D, b.p. 207-8°, d₄₂ 0.9008, w_D 1.4681). Passage of 7-8
l. of 5-6 drops/min. over Al₂O₃ at 400° with a N atom. in
the reaction tube gave 37% pyrrolidine, b.p. 85-7°, d₄₂
0.8509, w_D 1.4431 (picrate, m. 111.5°); at 350° the yield
was 25%. Similar reaction but in a NH₃ atm. at 400° gave
20% pyrrolidine and about 10% pyrrole; at 350° only 30%
pyrrolidine and traces of pyrrole were obtained. In all
expts. much carbonization took place, indicating severe
decompn. of L. G. M. K.

PA 66/49722

YUR'YEV, YU. K.

USSR /Chemistry - Dehydration
Glycols

Aug 49

"Catalytic Dehydration of Thiodiethylene
Glycol and 1,4-Thioxane With Hydrogen Sulfide,"
Yu. K. Yur'yev, K. Yu. Kovitakly, Lab of Org
Chem. Inst. N. D. Zelinskij, Moscow State U
Iakov M. V. Iamonosov, 3t pp

"Dok Akad Nauk SSSR" Vol LXVII, No 5

Records the yields of diethane from the
reactions of thiodiethylene glycol with hydrogen
sulfide and thiophene with hydrogen sulfide
in the presence of aluminum oxide during a
temperature interval of 200-400°C for periods

USSR /Chemistry - Dehydration
(Contd)

Aug 49

of 55-80 minutes for 11 experiments. On the
basis of these, the melting point of diethane
is computed at 108-110°C. Submitted
1 Jun 49.

66/49722

Simultaneous catalytic dehydration of thioldiethylene-glycol and *p*-oxathiazine with hydrogen sulfide. Yu. K. Yur'ev and K. Yu. Novitskii. *Doklady Akad. Nauk S.S.R.* 67, 303-6 (1949).—Passage of $S(CH_2CH_2OH)_2$ (I) or $SCH_2CH_2OCH_2CH_3$ (II) over Al₂S₃ at 200-400° in H₂S yields $SCH_2CH_2SCH_2CH_3$; the optimum temp.
are 225-25° and 250°, resp., at which 67% yields are obtained. I, d₄ 1.36-7, d₄²⁰ 1.1815, n_D²⁰ 1.6211, was passed over Al₂S₃ in a rapid H₂S stream at 1 g. per 0.8 min.; similar conditions were used for II, b.p. 115.5-0.5°, d₄²⁰ 1.1170, n_D²⁰ 1.5072, which was obtained by heating I with 1 mole KHSO₄. *Dukhane m.* 110.5° (from Et₂O, followed by sublimation). G. M. Kosolapoff

Simultaneous dehydration of ethylene glycol with hydrogen sulfide. Yu. K. Vur'ev, K. Yu. Novitskii, and E. V. Kukharikova. Doklady Akad. Nauk S.S.R. 68, 541-4 (1940). - Reaction of $(\text{CH}_2\text{OH})_2$ with H_2S over Al_2O_3 at 400° yields mainly thiophene, with liberation of CH_4 ; hydrated and dioxane is formed smoothly. The reaction probably proceeds via formation of ethylene oxide. Passage of 203.8 g. glycol (at 10 g./hr.) in a 11.8 stream over Al_2O_3 at 225° gave 23 g. water-insol. oil, which gave 3.4 g. p -exohiane, bp 145-6°, $n_D^{20} 1.5023$, $d_4^{20} 1.1100$, and 0.6 g. p -dihiane, m. 109°; the aq. layer gave 11 g. Acet. 0.1 g. of its acetal with glycol, bp 82.6-1.5°, $n_D^{20} 1.3860$, $d_4^{20} 0.9882$, 13 g. p -dioxane, bp 100-1°, $n_D^{20} 1.4220$, $d_4^{20} 1.0306$, as well as 105 g. unreacted glycol. Similar reaction at 400° gave, from 230 g. glycol, 1.2 g. thioprene and a mixt. of unresolved S derivs.; considerable amts. of CH_4 were evolved. $\text{O}(\text{CH}_2\text{CH}_2\text{OH})_2$ (20 g.) heated to 200° over 4 g. aluminosilicate catalyst gave 88.5% dioxane. $(\text{CH}_2\text{OH})_2$ was not dehydrated even at 200°. G. M. Kosolapoff

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Dehydration of thiodiethyleneglycol and disproportionation of ρ -oxathiane. Yu. K. Nur'ev and K. Vn. Novitskii. *Doklady Akad. Nauk S.S.R.*, **68**, 717-10 (1949); cf. preceding abstr.— $S(CH_2CH_2OH)_2$ (10 g., b. 136-7°, n_D^{20} 1.5211, d_4^{20} 1.1815) passed over Al_2O_3 in 90 min. at 225° in a N atm. gave 4.1 g. (NP^o) ρ -dithiane, m. 109.5°, 0.6 g. ρ -oxathiane, b.p. 145°, n_D^{20} 1.5000, d_4^{20} 1.1156, and a trace of an aldehyde, probably AcH. Heating 30 g. $S(CH_2CH_2OH)_2$ and 8 g. aluminumsilicate catalyst to 170-80°, and then at 230-40° when distn. of oxathiane was complete, gave 17 g. ρ -oxathiane, b.p. 147-8°, n_D^{20} 1.5056, d_4^{20} 1.1181, and 3.1 g. ρ -dithiane. Passing 12.5 g. oxathiane over Al_2O_3 at 200° in 90 min. in a N atm. gave 5.4 g. unreacted material, 0.0 g. ρ -dithiane, and some AcH; at 230°, 3.9 g. unreacted material is obtained, as well as 0.8 g. dithiane and some AcH; H₂S was detectable. G. M. Kosolapoff

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Synthesis of amines of the cyclohexane series Yu. K. Vur'ev and I. K. Kondratenko *Vestn. Nauk. i Tekhn. Nauk No. 3, Ser. Fiz.-Nauk i Kibernetika* 1968, 3, No. 3, p. 103. (from U.S. Pat. 3,430,300). HCONH₂ (prepd. by slow concn. of 115 g. HCOONa and 110 g. (NH₄)₂CO₃, is treated at 160-180° with 10 g. cyclohexanone and heated 7 hrs. with recycling of the distil. ketone after drying; after dilut. and refluxing the spnd. formyl deriv. 6 hrs. with 75 ml. concd. HCl, 30% KOH is added to isolate 40% cyclohexylamine, bp 133-4°, n_D²⁰ 1.001, d₄²⁰ 0.8650, and 13% dicyclohexylamine, bp 123-4°, n_D²⁰ 1.0052, d₄²⁰ 0.9114. HCO₂NHPh (31 g.) treated similarly with 36 g. cyclohexanone gave 33% *N*-methylcyclohexylamine, bp 114-15°, n_D²⁰ 1.000, d₄²⁰ 0.9087; *p*-nitro, m.p. 137° (from EtOH). Similarly, HCO₂NHPh (from 107 g. PhNH₂ and 130 g. HCO₂H), and 50 g. cyclohexanone gave 46% *N*-cyclohexyl-aniline, bp 158.5-9.5°, n_D²⁰ 1.5010, d₄²⁰ 1.0155.

G. M. Kosolapoff

1951